



May 4, 2016

Proposal for a Solid Waste Disposal Feasibility Study



COOLEY PUBLIC STRATEGIES LLC
Strategic Management | Building Public Support | Government Procurement

Submitted to:

Robert J. Lyons, City Manager
City of Murfreesboro
111 West Vine Street
Murfreesboro, Tennessee 37130

Submitted by:

Harvey W. Gershman, President
Gershman, Brickner & Bratton, Inc.
8550 Arlington Boulevard, Suite 304
Fairfax, Virginia 22031
(800) 573-5801

HGershman@gbbinc.com

GERSHMAN, BRICKNER & BRATTON, INC.

Proposal to Rutherford County, TN / City of Murfreesboro for a Solid Waste Disposal Feasibility Study

8550 Arlington Boulevard, Suite 304, Fairfax, Virginia 22031 / 800.573.5801 / www.gbbinc.com

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May 3, 2016

Robert J. Lyons, City Manager
City of Murfreesboro
111 West Vine Street
Murfreesboro, TN 37130

Dear Mr. Lyons:

Gershman, Brickner & Bratton, Inc. (GBB), in association with TriAD Environmental Consultants (TriAD) and Cooley Public Strategies, LLC (CPS), is pleased to submit this proposal for a Solid Waste Disposal Feasibility Study to Rutherford County and the City of Murfreesboro, TN, in response to the Request for Competitive Sealed Proposals (RFCSP) issued March 29, 2016.

Celebrating its 35th anniversary this year, GBB is a national solid waste management consulting firm that helps public and private entities in planning and implementing solid waste management projects. Assignments include solid waste management and recycling plans, cost-of-service and full-cost accounting analyses, waste reduction initiatives, and solid waste and recyclables collection system evaluation. We also provide analysis, procurement, development, and construction and operations monitoring of composting, transfer station, landfill, resource recovery, and materials recovery facilities. Our professional staff focuses exclusively on solid waste issues, and offers a depth of experience not always available in consulting organizations.

GBB's overall guiding principle is to help solid waste clients generate success stories, working closely in partnership with them. We aim to develop innovative, cost-effective approaches that achieve measurable results. We strive to bring a fresh perspective and provide independent objective advice in order to help advance better solutions for managing solid waste. We believe in being strategic, entrepreneurial and flexible. In short, GBB is where quality, value, ethics and results intersect.

Joining GBB for this assignment is TriAD, a Nashville-based privately-owned, small business founded in 1996, which provides a wide variety of environmental services. TriAD's personnel have extensive experience working within all areas of solid waste management, including plan development; landfill permitting, design, and construction; waste characterization studies; construction oversight; operational assistance; and facility compliance, including groundwater surface water, and landfill gas monitoring. Of note, TriAD has provided environmental services for the Rutherford County Solid Waste Department since 2012.

Also joining the GBB Project Team is CPS, with offices in Nashville, TN, and Washington, DC. CPS is a public affairs firm that specializes in issues management, public advocacy, and government procurement. CPS focuses on business issues where the private and public sectors intersect. The firm currently has energy, public-private partnership (P3), and healthcare projects in play in 27 states. CPS also has an ongoing relationship representing a national philanthropic organization focused on environmental/economic issues in Tennessee.

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Mr. Robert J. Lyons
May 3, 2016
Page 2

Included in our proposal is a multi-step process to engage City, County, and community leaders in the development of a feasibility study which will set the vision for how the region manages its municipal solid waste for the next 20 to 40 years. Our proposed public outreach strategy includes meetings with the City and County staff, workshops with potential public partners and importantly, and opportunity for the general public to provide input. Only after listening to the desires and opinions of City and County leaders and residents, will the GBB team begin to write the feasibility report. The final report should be an expression of the wants and needs of the community it is designed to serve.

As GBB President, I am authorized to contractually obligate the organization and hereby state that this proposal is considered firm, by all members of the GBB Project Team, for one hundred and twenty (120) days after the due date for receipt of proposals. We have included all documents required by the RFCSP and have completed the Fee Proposal. We have reviewed and accept the County and City's Terms and Conditions and, as per section 7.14 of the RFCSP, exceptions to the specifications are highlighted in Appendix C of this proposal. Following this transmittal letter is the Signature Sheet.

Contact Information (for this response and to obligate the organization contractually):

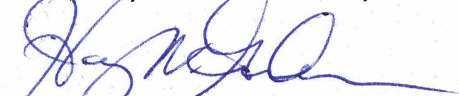
Harvey W. Gershman, President
Gershman, Brickner & Bratton, Inc.
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1-800-573-5801 / hgershman@gbbinc.com

On page 2 of the RFP, a schedule for the selection process is provided along with a note stating that "Dates may be adjusted by the County and City as needed." Please note that the key GBB Project Team members for this assignment are scheduled to be out-of-town on a client assignment on May 19, 2016, the date currently listed for Finalist Presentations. When deemed appropriate by the County and City, we are available to discuss an alternative date suitable to all parties for the presentation.

We appreciate the opportunity to be considered to serve Rutherford County and the City of Murfreesboro, TN, and are confident we can provide a valuable service. We look forward to your consideration of our proposal. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Gershman, Brickner & Bratton, Inc.



Harvey W. Gershman
President

Attachments



Proposal for a Solid Waste Disposal Feasibility Study

Signature Sheet

SIGNATURE SHEET

I, the undersigned, do hereby agree to all terms and conditions listed within this formal solicitation, and will supply all labor and materials as required with this specification.

COMPANY NAME: Gershman, Brickner & Bratton, Inc.

ADDRESS: 8550 Arlington Boulevard, Suite 304

Fairfax, Virginia 22031-4620

TELEPHONE: 703-573-5800 FAX: 703-698-1306

EMAIL: hgershman@gbbinc.com

ADDENDUM ACKNOWLEDGEMENT

The proposer shall acknowledge obtaining all addenda issued to this formal solicitation by completing the blocks below. Failure to acknowledge all addenda may be cause for rejection of the response.

Addendum No. 1 Date Issued: MAY 2, 2016

Addendum No. _____ Date Issued: _____

Addendum No. _____ Date Issued: _____

AUTHORIZED SIGNATURE: _____

TITLE:

President

(Print / type name as signed above):

Harvey W. Gershman

DATE:

May 2, 2016



Proposal for a Solid Waste Disposal Feasibility Study

Signature Sheet

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Proposal for a Solid Waste Disposal Feasibility Study

1 – Qualifications and Background

1.1 - GBB

Communities and businesses across the country are increasingly trying to find solutions to effectively manage the repetitive tide of solid waste. This year, Gershman, Brickner & Bratton, Inc. (GBB) is celebrating 35 years on the front lines as a solid waste management consulting firm, planning and implementing integrated waste management programs designed to provide cost-effective services, protect the environment, and sustain our natural resources.



Using past projects as a guide, GBB carefully analyzes current and future demands to customize a solid waste management program that fits each client's unique social, economic, environmental, and political context. While clients' specific needs may vary, GBB typically designs integrated management systems that may include waste prevention, reuse, recycling, composting, waste-to-energy, and landfilling. Our commitment to excellence, the highest quality work products, and years of proven experience offer our clients the best results. When making recommendations, GBB maintains its objectivity by avoiding situations that could create a conflict of interest. GBB is independent of technology, financing, construction, and operational interests. We have earned our solid reputation by understanding our clients' needs, and working hard to achieve their goals. Our corporate resources are committed to implementing economically sound and environmentally sustainable solid waste management systems. Areas of expertise include the following:

- Solid Waste Management Planning and Implementation
- Waste-to-Energy Project Development
- Municipal, Commercial, and Industrial Recycling
- Managing and Administering Operations
- Collection and Routing
- Full-Cost Accounting
- Construction Waste and Demolition Debris Recycling
- Landfill Management
- Markets Analysis
- Community Information, Technical Assistance, and Training
- Administrative and Management Evaluations
- Waste Composition and Quantity Analysis
- Procurement, Evaluation, and Construction, Acceptance, and Operations Monitoring

GBB Information:

- Firm Name: Gershman, Brickner & Bratton, Inc.
- Business Address: 8550 Arlington, Suite 304, Fairfax, VA 22031
- Names/Titles of 2 Contact People: Harvey Gershman, President; John Carlton, Senior VP
- Type of Firm: Solid waste management consulting firm
- Federal Employer Identification Number: 52-1189668
- Year Firm was Established: 1980
- Payment and Performance Bonding limits: GBB is fully insured to protect the firm and its clients from unforeseen risks. GBB's carries insurance policies that meet the requirements of Section 6.6 as well as automotive liability, umbrella liability, and professional liability policies. If required by the City of Murfreesboro GBB will secure a Payment and Performance bond with the necessary



Proposal for a Solid Waste Disposal Feasibility Study

1 – Qualifications and Background

limits to satisfy performance of the contract and incorporate the additional cost of the bond into the proposed project budget.

- How many years has the firm been doing business under its present name? 35 years, 9 months
- What projects has the firm completed and what projects is the firm currently engaged? GBB has completed hundreds of projects since 1980. Provided below is a list of projects GBB is currently working on:
 - American Refuse, CA: Feasibility study
 - Chester County, PA: Solid waste management plan
 - City of Aiken, SC (as sub-contractor): Automating Collection & Efficiency Evaluation
 - City of Allentown, PA: MSW consulting services & collection/disposal review
 - City of Broken Arrow Municipal Authority, OK: Recycling and Refuse Service Survey
 - City of Fort Wayne, IN: Collection review
 - City of Midland, MI: Evaluation of collection services
 - City of Spokane, WA: collection route optimization
 - Jordan Competitiveness Program: Design Integrated Solid Waste Management Frameworks for the Dead Sea Development Zone and Greater Irbid Area
 - Kent County, MI: GBB Access on-demand consultation service
 - Metlakatla, AK: Preliminary design for waste-to-energy plant
 - Prince George's County, MD: Technical assistance
 - Prince William County, VA: Procurement projects
 - Rocky Mountain Institute - Carbon War Room: Economic analysis of solid waste management systems in Grenada and St. Lucia
 - U.S. District Court of Guam: Guam Receivership
 - U.S. Virgin Islands: Procurement Review
 - Wasatch Integrated Waste Management District, UT: On-demand consultation service
 - 9 confidential assignments

1.2 - TriAD

TriAD Environmental Consultants (TriAD) is a privately-owned, small business founded in 1996, which provides a wide variety of environmental services. From its Nashville headquarters, the firm staffs projects throughout Tennessee and across the United States. Much of its business is with long-term clients who know they can trust TriAD to provide timely, cost-effective, quality service.



TriAD's personnel have extensive experience working within all areas of solid waste management, including plan development; landfill permitting, design, and construction; waste characterization studies; construction oversight; operational assistance; and facility compliance, including groundwater surface water, and landfill gas monitoring. TriAD personnel have prepared solid waste management and recycling plans for federal, municipal, and industrial clients, including Metropolitan Nashville and Davidson County.

TriAD has provided environmental services for the Rutherford County Solid Waste Department since 2012. Since that time, the firm has been responsible for groundwater and methane monitoring and reporting at their closed Class I and operating Class III/IV landfill. TriAD completed an assessment of the existing groundwater and methane monitoring networks and updated both programs, with the replacement of a groundwater monitoring well, installation of dedicated bladder pumps in each groundwater well,



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1 – Qualifications and Background

installation of several methane monitoring probes, preparation of a Groundwater Monitoring Plan and Assessment Monitoring Plan, and preparation of a revised Methane Monitoring Plan. The firm also provided engineering services that have included designing an expansion of a storm water sediment pond that was undersized, revising the final grading plan for the operating Class III/IV landfill, and developing a Construction Storm Water Pollution Prevention Plan (SWPPP) and a Multi-Sector SWPPP for the facility. Throughout all of these efforts, TriAD worked closely with Tennessee Division of Solid Waste Management (TDSWM) personnel to address each of the regulatory issues.

- Firm Name: TriAD Environmental Consultants, Inc.
- Business Address: 207 Donelson Pike, Nashville, TN 37214
- Names/Titles of 2 Contact People: Jeff Postell, Sr. Engineer; Nancy Sullivan, Sr. Project Manager
- Type of Firm: Engineering
- Federal Employer Identification Number: 62-1635195
- Year Firm was Established: 1996
- Payment and Performance Bonding limits: N/A
- How many years has the firm been doing business under its present name? since April 1996
- What projects has the firm completed and what projects is the firm currently engaged?
 - American Water Heater
 - Bass, Berry, and Sims
 - Egyptian Lacquer Manufacturing Company
 - Floyd and Floyd Contractors
 - General Smelting and Refining
 - Langdale Forest Products
 - Lifestyle Communities
 - MECO Corporation
 - Metalico
 - Metro Public Works
 - Nissan North America
 - Rutherford County Solid Waste Department
 - Sanders Lead Company
 - Schneider Electric
 - Smelter Services
 - Sumiden Wire Products Corporation
 - Tennessee Aluminum Processors
 - Tradebe
 - TVA
 - Urban Grout
 - Waste Management
 - William Bonnell Company

1.3 - Cooley Public Strategies, LLC.

Cooley Public Strategies is a public affairs firm that specializes in issues management, public advocacy, and government procurement. CPS focuses on business issues where the private and public sectors intersect. The firm currently has energy, public-private partnership (P3), and healthcare projects in play in 27 states. CPS also has an ongoing relationship representing a national philanthropic organization focused on environmental/economic issues in Tennessee.

Spanning four decades of experience in government, political, and corporate public affairs, CPS principals have handled more than 240 political, business advocacy, and issue campaigns across the nation. Among those, the firm has managed a number of land-use campaigns across Tennessee, from multimillion-dollar tax incentives to P3 solutions to local siting and zoning issues.

CPS has crafted strategic campaigns that run the gamut. The firm has a highly recognized grassroots team that has handled outreach and recruitment in all of Tennessee's 95 counties. They have directed media



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1 – Qualifications and Background

campaigns all over the state in legacy newspapers and broadcast, business publications, and online blogs and social media. CPS has successively shepherded clients – including one Fortune 500 healthcare corporation – through governmental processes at the federal, state, and local levels.

CPS takes a hands-on, campaign approach, working with clients to bring a clear focus to their needs, their goals, and the path to achieve those goals. The firm takes the best available research and builds the right strategy, then stands shoulder-to-shoulder with the company and helps execute that strategy. Cooley Public Strategies is a leader in galvanizing public support.

- Firm Name: Cooley Public Strategies, LLC
- Business Address: 223 Rosa L. Parks Avenue, Suite 402, Nashville, TN 37203
- Names/Titles of 2 Contact People: Dave Cooley, President; Terry Quillen SR Communications Director
- Type of Firm: Public Affairs
- Federal Employer Identification Number: 26-4477707
- Year Firm was Established: 2007
- Payment and Performance Bonding limits: \$2 million general liability; \$1 million errors and omissions
- How many years has the firm been doing business under its present name? 9 years
- What projects has the firm completed and what projects is the firm currently engaged?
 - Coalition for Safe and Affordable Food, Hilltop Public Solutions
 - Tri-Star StoneCrest Medical Center, HCA
 - TN Supreme Court Retention Campaign
 - Amazon, The Tobin Company
 - Ozone Standards Campaign, DDC Advocacy
 - Tennessee Field Operations, Pew Charitable Trust



Proposal for a Solid Waste Disposal Feasibility Study

2 – Firm Experience and References

Provided in this section are descriptions and references for selected projects, performed as prime contractors within the last 7 years, that are similar in scope to this assignment for Rutherford County, TN and City of Murfreesboro. Descriptions of additional projects in relevant areas of specialization are provided in Appendix B.

2.1 - GBB

City of Fort Worth, Texas

Contact: Mr. Robert Smouse, Assistant Director, Code Compliance Department
Solid Waste Services Division 4100 Columbus Trail, Fort Worth, TX 76133
(817) 392-5153 / robert.smouse@fortworthtexas.gov

Project Date: February 2014 – ongoing

Comprehensive Solid Waste Management Plan Development

The City of Fort Worth has a tradition of being proactive in waste management, going back almost 50 years, and is dedicated to providing residents with opportunities to divert, recycle, and reuse. To assist in the development of its 20 year (2015-2035) comprehensive solid waste management plan, the City selected GBB to perform the following key tasks: Data Gathering and Analysis; Identification and Evaluation of Alternatives; Public Outreach; Strategic Planning / Recommendations; Present and Future Funding Strategies Analysis; 20-Year Implementation Plan / Capital Improvement Plan; Debris Management Plan.

Waste Characterization

The City of Fort Worth selected the GBB Project Team to conduct a waste characterization study of 400 garbage and 400 recycle carts. The City then used the study and projections in its own evaluation of its Pay-as-you-throw collection system and other waste and recycling programs to accurately quantify and characterize the composition of the waste and recyclables streams generated by City residents. The waste was sampled from collection carts randomly selected by the City in a “snapshot” waste sorting approach.

Prince William County, Virginia

Contact: Tom Smith, Solid Waste Division Chief
1 County Complex Court (MD460), Prince William, VA 22192
(703) 792-6252 / tsmith@pwcgov.org

Project Date: October 2010 – ongoing

Prince William Renewable Energy Park (PWREP) - Technical and Economic Feasibility Study and Project Plan

Prince William is the second-most populous County in Virginia, located about 35 miles west of Washington, DC. GBB was selected to explore the renewable energy technologies available for use on the



2 – Firm Experience and References

County landfill. For technologies found to be applicable for the site, GBB investigated their technical requirements and limitations, order-of-magnitude costs, revenue potential, market maturity and acceptability. GBB also analyzed and presented implementation options for the Prince William Energy Park (PWREP), including ownership options, financing and cash flow implications, risk allocations, management roles and requirements, procurement implications, and present the options to the County. Based on the results of the analysis and the procurement process selected by the County, GBB prepared a preliminary development plan outlining the potential uses of the site, the roles and responsibilities of the development team members, the scheduling of the development process, and preliminary financial projections for the County.

Solar/Wind Project Procurement

As part of the PWREP, GBB assisted with the development of solar and/or wind energy project(s) at its landfill. The project included the procurement of a full-service design-build-own-operate developer or developers of such project(s).

Program Planning and Management

GBB provided the general program planning and management tasks preparatory to the implementation of the renewable energy projects envisioned in the Preliminary PWREP Concept Plan. Work included finalizing the development plan, program and development team, supporting the County and its advisory groups in the development of the final plan, creating an overall site development plan, negotiating arrangements with respect to landfill gas availability, electrical interconnection and academic support for the proposed Sustainability Center, and performing other analyses and general tasks related to program management.

Waste Conversion Project Procurement

GBB assisted with the development of a demonstration plant (≤ 100 ton/day) of an emerging MSW WTE conversion technology (e.g., pyrolysis, gasification, anaerobic digestion, plasma torch, etc.) at the landfill.

Procurement of Organic Waste Processing Facility

In the summer of 2017, Prince William County is scheduled to inaugurate a brand new facility to process yard waste, food scraps, and wood waste. GBB has been working closely with the County on the technical and economic feasibility study, planning and implementation of the PWREP, and on the procurement process for this new state-of-the-art organics facility. Among the expected benefits of the PPP are the creation of 20-25 jobs, increased organics processing capacity, increased recycling rate, extended landfill life, and setting a solid foundation on which to build a comprehensive County-wide organic waste management program.

Waste Reduction and Recycling

GBB was selected to provide assistance with planning, analysis and recommendations to advance Prince William County's waste reduction and recycling efforts.



Proposal for a Solid Waste Disposal Feasibility Study

2 – Firm Experience and References

Prince George's County, Maryland

Contact: Lee Flick, Assistant Associate Director of the Waste Management Division
9400 Peppercorn Place, Largo, MD 2077
(301) 952-7607 / dlflick@co.pg.md.us
Project Date: November 2011 – ongoing

Business Plan for Solid Waste Disposal Capacity

GBB was selected to develop a business plan for solid waste disposal for both short- and long-term. As part of the assignment, GBB reviewed existing landfill resources owned by County, those waste-to-energy facilities and landfills owned by others, as well as RDF and/or WTE project concepts that might be implementable in Prince George's County.

The GBB Project Team also reviewed solid waste related activities associated with the Waste Management Department (WMD)'s Enterprise Fund to identify potential areas where the County's Waste Management Division can improve revenues, reduce costs, improve efficiencies, and increase recycling through organics recycling.

Strategic Organizational Review

Consulting services to develop and implement strategic planning work sessions for senior management within WMD were also provided. GBB supported an organizational development process to facilitate the review of current Division operations and goals, and the development of strategies to facilitate effective organizational development. GBB facilitated the strategic planning to help the County's WMD reduce costs, and improve operational efficiencies.

Collection Services Procurement

The GBB Project Team was selected to assist with the modification of collection services and development of procurement documents for the County's trash, garbage, recycling, bulky collection services, and cart purchase/delivery/maintenance. The project also included the review and development of condominium collection Services and assistance with the implementation of the County's new transfer station.

Solid Waste Authority of Palm Beach County, Florida

Contact: Mark Hammond, Managing Director
7501 North Jog Road, West Palm Beach, FL 33412
(561) 640-4000 / mhammond@swa.org
Project Date: July 2009 to September 2009; March 2011 to May 2011

Review of Additional Energy Recovery Facility Procurement Plans

As it embarked on a major capital expansion program that included the development of a new 3,000 TPD mass burn energy recovery facility on a design-build-operate basis, the Solid Waste Authority of Palm Beach County (Authority) issued a Request for Qualifications (RFQ) for contractors to provide the requested services. The Authority's Board asked for an independent party not involved in the procurement activity to review all technologies being promoted for waste to energy and advise which, if



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2 – Firm Experience and References

any, should be considered. To address these needs, the Authority requested assistance from GBB to provide information of a general nature, comments specific to the Authority's direction to add another energy recovery facility, and to participate in discussions with the Authority's Governing Board.

GBB provided the following assistance:

- Reviewed information on the Authority operations, budget and current plans, including information related to the procurement underway for a second energy recovery facility;
- Met with Authority management to review Authority operations and existing facilities;
- Provided a White Paper on Energy Recovery Technologies similar to the white paper developed for the Rhode Island Resource Recovery Corporation;
- Prepared and presented a PowerPoint presentation summarizing the White Paper at a workshop of the Governing Board;
- Responded in a memorandum format to any questions brought up at the workshop and submitted to the Authority.

Construction began in late 2011 and on June 27, 2015 a ribbon cutting ceremony took place to celebrate the grand opening of the \$672 million state-of-the-art facility. The plant is the first municipal-waste-burning power plant built in the United States since 1995 and the most advanced and cleanest waste-to-energy power plant in North America.

City of Cleveland, Ohio

Contact: Ken Silliman Esq., Chief of Staff, Office of the Mayor
601 Lakeside Ave., Cleveland, OH 44114
(216) 664-2220 / KSilliman@city.cleveland.oh.us
Project Date: November 2012 to June 2013; December 2013 to March 2015

Options Evaluation for the Cleveland Recycling and Energy Generation Center Project

The City of Cleveland selected the GBB Project Team to review options for the Cleveland Recycling and Energy Generation (CREG) Center project which seeks to better manage the City's municipal solid waste, with the potential for using waste as a source for locally-produced energy.

Since 2007, the City had been investigating the use of municipal solid waste (MSW) for the production of energy with the main goals being to reduce Cleveland's dependence on fossil fuels, develop local energy generation capacity, and recover marketable by-products, such as recyclables, from MSW.

In September 2011, the Division of Cleveland Public Power (CPP) began a procurement process for the development of the project and initially issued a Request for Information and Qualifications (RFIQ), followed later by a Supplemental Request for Information and Qualification (SRIQ), that targeted a wide variety of waste conversion and management approaches, including thermal conversion, pyrolysis, gasification, recycling, and fuel production, as well as consulting and financial firms to assist in project development.

The GBB Project Team reviewed, analyzed, and evaluated the 50 responses received through the RFIQ and SRIQ; evaluated gasification to energy development efforts; evaluated the co-generation opportunity;



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2 – Firm Experience and References

provided a shortlist and comparison of the three best overall options, along with a life cycle analysis of each, and; made overall recommendations on how to develop the CREG Center.

2.2 - TriAD

Metropolitan Nashville and Davidson County, Tennessee

Contact: Clayton Hand, 615-862-8623 / Clayton.Hand@nashville.gov

Project Date: 2011 to 2016

Environmental Engineering; Permitting; Monitoring

TriAD provided solid waste management planning and consultation, environmental assessment, environmental monitoring, environmental regulatory compliance, and construction/remediation management services to Metropolitan Nashville and Davidson County Public Works Department. These services included planning and consultation services; groundwater and landfill gas monitoring and reporting; coordination and communication with regulatory agencies; and assessment and monitoring of leachate and storm water. TriAD also, through subcontractors, provided laboratory services, including sampling and analysis provided in support of multiple closed landfills and the former Nashville Thermal Incinerator property. TriAD provided regulatory agency coordination on multiple projects, including the 28th Avenue Connector project, where expedited response from TDEC was needed to meet the project schedule, and to support public use of the former Nashville Thermal Incinerator site.

Design services included design, bid document and specification preparation, permit acquisition, and construction oversight for the Ezell Pike Convenience Center. TriAD utilized the services of GHP for design of the associated HHW building and to assist in development of the HHW Storage SOP.

TriAD personnel provided compliance monitoring and database maintenance for Metro's underground storage tank program. Periodic site inspections were included in the program to verify compliance with TDEC permit requirements. TriAD also worked with team member Stantec to provide safety program review and updates.

Tennessee Valley Authority

Contact: Melissa Hedgecoth, mahedgrec@tva.gov

Project Date: 2013 - ongoing

Geotechnical Services and Engineering Consulting

TriAD is the prime contractor providing geotechnical and engineering services to TVA's Coal Combustion Residue (CCR) management program. TriAD and its team members support the construction of CCR monofills and related structures by provided quality assurance/quality control monitoring of the construction, ensuring that material is placed properly and within permitted limits. Work includes routine collection of density, moisture, and surveyed elevation data, evaluating the data and assembling it into comprehensive reports showing construction progress at eight TVA fossil fuel facilities. Work has also included configuration management, site inspections, and Emergency Action Plan preparation.



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2 – Firm Experience and References

City of Murfreesboro, Tennessee

Contact: Mac Nolen, 615-898-7739 / mnolen@rutherfordcountyttn.gov

Project Date: 2011 - ongoing

Rutherford County Landfill - Environmental Consulting

TriAD provides consulting and design services for this Class I and Class III/IV landfill. Work has included upgrades to existing groundwater and landfill gas monitoring systems, routine groundwater and landfill gas monitoring and reporting, sediment basin design, Closure Plan preparation, leachate management consultation and design, and interaction with TDEC. The facility is currently in assessment groundwater monitoring and has been working with TDEC to reduce leachate generation through cap repair and maintenance and establishment of a second leachate recovery sump within the landfill footprint. These and other efforts are also directed toward reducing landfill gas generation, thereby reducing the impact to groundwater. TriAD also, through subcontractors, provides drilling and laboratory services.

Waste Management of Tennessee, Inc.

Contact: Jessica Preston, 615-330-0376 / JPresto1@wm.com

Project Date: 1997 - ongoing

Design/Bid/Build; Permitting; Environmental Consulting

TriAD provides solid waste management planning and consultation, environmental assessment, environmental regulatory compliance, and construction/remediation management services to Waste Management at several Tennessee locations, including municipal landfills, construction and demolition landfills, and transfer stations. TriAD provides planning and consultation services; project prioritization; asset management; capital improvement and operating budget costs; general program guidance; site evaluation; landfill design and permitting services; performs groundwater and landfill gas monitoring and reporting; coordinates and communicates with regulatory agencies; assesses and monitors leachate and storm water; performs CQA monitoring during landfill construction; supervises subcontractors; prepares SPCC and SWPPP documents; prepares closure and post-closure plans; and assists in community relations and publicity through participation in public hearings. Individual projects have included groundwater statistical analysis, monitoring well and gas probe installation, geophysical investigations, erosion and sediment control, dye tracing, remote water monitoring using telemetry, expansion studies and permitting, NPDES permitting, and solid waste volume assessments. TriAD has also, through subcontractors, provided surveying, drilling, and laboratory services at multiple locations.

2.3 - CPS

Tennessee Public Affairs Campaign

Contact: Steve Baker, 678-762-2589 / sbaker@colpipe.com

Project Date: Currently engaged

Colonial Pipeline Company

See 3.3 for descriptions.



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2 – Firm Experience and References

Ozone Standards Campaign

Contact: Katie Lovro, 202-830-2176 / klovro@ddcpublicaffairs.com

Project Date: Completed

See 3.3 for descriptions.

Tennessee Field Operations

Contact: Elise Shutzer, 202-540-6878 / eschutzer@pewtrust.org

Project Date: Currently engaged

Pew Charitable Trust

See 3.3 for descriptions.

Coalition for Safe and Affordable Food

Contact: Jessie Bradley, 202-298-2173 / jbradley@hilltoppublicsolutions.com

Project Date: Complete

Hilltop Public Solutions

See 3.3 for descriptions.

Tri-Star StoneCrest Medical Center

Contact: Parker Sherrill, 615-320-9028 / Parker.sherrill@hcahealthcare.com

Project Date: Currently engaged

HCA

See 3.3 for descriptions.

TN Supreme Court Retention Campaign

Contact: Former Chief Justice Gary Wade, 865-545-5300 / Gary.wade@lmunet.edu

Project Date: Complete

3 Supreme Court Justices

See 3.3 for descriptions.

Amazon

Contact: Jim Tobin, 202-302-8123 / jamestobin@att.net

Project Date: Complete

The Tobin Company

See 3.3 for descriptions.



2 – Firm Experience and References

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3 – Capability of the Firm

Provided in this section are lists of projects completed in the state of Tennessee.

3.1 - GBB

Solid Waste Management Long Term Strategic Planning / Services Procurement / District Energy System Study and Implementation

(Metropolitan Nashville/Davidson County, Tennessee)

Solid Waste Management Long-term Strategic Plan

GBB was the lead of a consulting team for the Metropolitan Government of Nashville and Davidson County (Metro) in preparing a strategic plan to assess various long-term strategies for meeting both the solid waste management and recycling needs of Metro and the energy needs of Nashville Thermal Transfer Corporation (NTTC) customers. The first step in the evaluation of the overall solid waste system was to develop a full-cost accounting model for Fiscal Year 2000 for the Division of Waste Management. This effort resulted in accurate cost data for the collection business units that could be used for benchmarking, including cost per ton by program and cost per customer. Performance data were collected on each operation in the Division of Waste Management, including collection, recycling and disposal by means of field surveys. A full range of options was developed for Metro, from minimal level services to a proactive recycling program with superior services. Information from these three efforts was used to develop a Waste Management Model. This model was used to evaluate the costs of several scenarios for improved and expanded collection services. The results of these efforts were documented in a report and presented to Metro. The Administration selected the preferred option, and it was approved by the City Council.



Solid Waste Disposal Services Procurement

GBB managed the full service procurement for the transfer and disposal of over 160,000 tons of solid waste annually for the Metropolitan Government of Nashville and Davidson County. The project goal was to develop a solid waste disposal alternative for Metro, utilizing private industry that will provide high reliability and low cost for the next 30 years. To meet this goal, GBB developed procurement documents, including draft contracts that lay out Metro's preferred terms and conditions. The procurement documents, issued as a Request for Proposals (RFP), contained specifications and requirements that Metro felt were necessary, including disposal outside of Davidson County at an existing permitted facility, provision of a business plan, provision of cost information to enable Metro to make unambiguous comparisons and provisions for taking solid waste from all the current users of Thermal.

GBB managed the process for Metro that used the Competitive Sealed Proposals method of source selection for this procurement, as authorized by Section 4.12.040 of the Metropolitan Procurement Code.



3 – Capability of the Firm

Under this method, an award, if made, is to be made to the responsible Proposer whose Proposal is most advantageous to Metro, taking into consideration price and the other factors set forth in the RFP.

The RFP requested that any firm that felt it was qualified could submit technical proposals, qualifications and cost proposals in the form requested in the RFP. All proposals received by the specified due date and time would be evaluated.

This approach allows for evaluation of differences in technical approach to determine which is in the best interest of Metro. It also allows proposers to offer innovative options that Metro may not have identified but that may be in Metro's best interest to evaluate. The process permitted competition among the proposing vendors on criteria other than price alone.

The contracts with the private firm selected for the project were signed by the City Council five months after project initiation, and operations began for the entire Metro waste stream in less than one year. The cost to Metro dropped from \$75 per ton of waste disposed to \$26.50 per ton. The unit cost will escalate with a portion of the cost of living index during the life of the contract.

GIS Routing

GBB, in association with CIVIX L.L.C., implemented a path-routing geographic information system for the new curbside recycling collection using the FleetRoute software. Collection on the routes started in May 2002 and was fully implemented in November 2002.

Recycling and Demolition of Nashville Thermal Waste-to-Energy Plant

On April 19, 2004, the Nashville Thermal Transfer Corporation formally turned over the 30-year-old Thermal Waste-to-Energy plant property to Anderson Excavating Company of Omaha, Nebraska, for complete demolition. The RFP indicated a Project-goal of 90% reuse/recycling of the Plant.

The overall demolition process, from writing of the contractor RFP to contracting, was managed by GBB. One of the unique and original aspects of the "dismantling of Thermal" was an on-line auction process conducted on Thermal's fixed and used mobile equipment and parts. GBB assisted the Metro IT staff publish and complete over 150 auction transactions for the resale and reuse of used equipment. These auction events, completed over a six-month period brought \$983,000 to the Metro Nashville government, owner of the Thermal assets, reducing the overall cost to close and demolish Thermal.

The five-month project included the implosion of the large 200-foot concrete stack. Considering all site-related work, GBB has calculated that 98.5%, by weight, of all the materials within the old waste-to-energy plant were either salvaged for reuse, or processed for recycling including materials such as crushed concrete aggregate, crushed asphalt, metals, railroad ties and used equipment. New Metro public works construction projects were the strategic recipients of many of these recycled materials, saving the Metro costs of buying virgin materials.



Proposal for a Solid Waste Disposal Feasibility Study

3 – Capability of the Firm

District Energy System Study and Implementation

(Metropolitan Government of Nashville and Davidson County, Tennessee)

As a result of GBB's comprehensive solid waste management analysis for the Metropolitan Government of Nashville and Davidson County (Metro), Metro selected the alternative of replacing its aging and inefficient waste-to-energy Nashville Thermal Transfer Corporation facility ("Thermal") with a new District Energy System in downtown Nashville. GBB was retained by Metro to manage the procurement process for selecting a contractor to design, build and operate the new Energy system. GBB prepared the Request for Proposals, assisted Metro in evaluating the proposers, negotiated a successful contract with the selected proposer, and managed the implementation of the project. GBB was also the lead consultant in the feasibility study leading to the successful financing of \$66.7 million in bonds to finance, of part, the construction of a new 43,450 square foot, two-story building to house the highly efficient steam and chilled water generating facility which began operating in December 2003.

The Metro Nashville District Energy System provides heating and cooling to nearly 40 buildings in downtown Nashville. The facility operates nine chillers and four boilers, and has the capacity to provide 23,400 tons of chilled water for cooling and 260,000 pounds of steam for heating. The Nashville Thermal Transfer Corporation formally turned over the 30-year-old Thermal Waste-to-Energy plant for complete demolition. The overall demolition process was managed by GBB. GBB also served as Metro's Project Administrator, overseeing all phases of the project, including management of the District Energy System, financial and system planning, customer service, adding new customers and the transition and closing of Thermal.

District Energy System Project Administration Services

GBB also served as Metro's Project Administrator to oversee all phases of the project. GBB led a team of advisors in providing the Metro Nashville DES Project Administration Services from the time transition activities initiated toward the end of construction of the Energy Generation Facility (EGF) and new Energy Distribution System (EDS) interconnection.

The GBB Team provided acceptance testing monitoring and a full range of project administration services during the commercial operations period. GBB was responsible for overseeing the use of the remaining amounts of the 2002A Bonds, the use of the 2005B Bonds; and establishing and tracking budgets. The GBB team also monitored and oversaw services provided to DES customers by CEPS. Additionally, the GBB team was instrumental in helping secure several new customers to the DES to include the Sun Trust Bank Building, Metro New Library, Metro Hume Fogg School, Viridian Tower, the new Schermerhorn Concert Hall, and the new Metro A.A. Birch Courthouse. As required, GBB team services included contract negotiations, design and construction monitoring of the interconnections as well. During GBB's tenure as Project Administrator, the Metro Nashville DES has received several awards demonstrating its excellence.

Other GBB Projects in Tennessee:

- **Collection System Routing**
(City of Bartlett, Tennessee)
- **Review of Solid Waste Services and Administration with Route Optimization**



3 – Capability of the Firm

(City of Chattanooga, Tennessee)

- **MSW Collection Analysis**
(City of Franklin, Tennessee)
- **Review of Solid Waste Management Options, Including Use of Waste-to-Energy Plant**
(City of Gallatin, Tennessee)
- **New Area Routes for Solid Waste Collection**
(City of Memphis, Tennessee)
- **Collection and Unit-Based Pricing Analyses**
(City of Memphis, Tennessee)
- **Yard Waste Composting Assessment**
(Johnson City, Tennessee)
- **Solid Waste Collection System Analysis**
(Town of Collierville, Tennessee)

3.2 - TriAD

Rutherford County Landfill - Environmental Consulting

(Murfreesboro, Tennessee)

TriAD provides consulting and design services for this Class I and Class III/IV landfill. Work has included upgrades to existing groundwater and landfill gas monitoring systems, routine groundwater and landfill gas monitoring and reporting, sediment basin design, Closure Plan preparation, leachate management consultation and design, and interaction with TDEC. The facility is currently in assessment groundwater monitoring and has been working with TDEC to reduce leachate generation through cap repair and maintenance and establishment of a second leachate recovery sump within the landfill footprint. These and other efforts are also directed toward reducing landfill gas generation, thereby reducing the impact to groundwater. TriAD also, through subcontractors, provides drilling and laboratory services.

Environmental Engineering; Permitting; Monitoring

(Metropolitan Nashville and Davidson County, Tennessee)

TriAD provided solid waste management planning and consultation, environmental assessment, environmental monitoring, environmental regulatory compliance, and construction/remediation management services to Metropolitan Nashville and Davidson County Public Works Department. These services included planning and consultation services; groundwater and landfill gas monitoring and reporting; coordination and communication with regulatory agencies; and assessment and monitoring of leachate and storm water. TriAD also, through subcontractors, provided laboratory services, including sampling and analysis provided in support of multiple closed landfills and the former Nashville Thermal Incinerator property. TriAD provided regulatory agency coordination on multiple projects, including the 28th Avenue Connector project, where expedited response from TDEC was needed to meet the project schedule, and to support public use of the former Nashville Thermal Incinerator site.



Proposal for a Solid Waste Disposal Feasibility Study

3 – Capability of the Firm

Design services included design, bid document and specification preparation, permit acquisition, and construction oversight for the Ezell Pike Convenience Center. TriAD utilized the services of GHP for design of the associated HHW building and to assist in development of the HHW Storage SOP.

TriAD personnel provided compliance monitoring and database maintenance for Metro's underground storage tank program. Periodic site inspections were included in the program to verify compliance with TDEC permit requirements. TriAD also worked with team member Stantec to provide safety program review and updates.

Other TriAD Projects in Tennessee:

- **Bivens Industrial Park Monofill - Design/Bid/Build; Permitting; Environmental Consulting**
(Camden, Tennessee)
- **Environmental Consulting; Design/Bid/Build**
(Egyptian Lacquer Company, Franklin, Tennessee)
- **Environmental Consulting; Design/Build**
(MECO/Jones Quarry, Greeneville, Tennessee)
- **ACC Landfill - Environmental Consulting; Design/Build**
(Mount Pleasant, Tennessee)
- **HMR Class II Landfill - Design/Bid/Build; Permitting; Environmental Consulting**
(Mount Pleasant, Tennessee)
- **Environmental Consulting**
(Tennessee Department of Environment and Conservation)
- **Geotechnical Services and Engineering Consulting**
(Tennessee Valley Authority)
- **Design/Bid/Build; Permitting; Environmental Consulting**
(Waste Management of Tennessee, Inc.)

3.3 - CPS

Tennessee Public Affairs Campaign

Colonial Pipeline Company

Over the course of 17 years, Cooley Public Strategies' principals have executed grassroots outreach and crisis management services for Colonial Pipeline, one of the top petroleum pipeline companies in the United States. In 2014, CPS directed a detailed public affairs assessment for siting a major facility in Rutherford County.

Ozone Standards Campaign

DDC Advocacy

CPS recruited local officials to oppose EPA-proposed tighter ground-level ozone standards. Due to its being one of the five fastest growing counties in America and its proximity to Nashville, Rutherford County was pivotal to the campaign. CPS was successful in recruiting and working with both the Rutherford County Mayor and the Murfreesboro Mayor to join the coalition and to issue a joint press release urging the EPA not to enact overly harsh ozone regulations.



3 – Capability of the Firm

Tennessee Field Operations

Pew Charitable Trust

In an ongoing relationship dating back to 2009, CPS is working with the national philanthropic trust to obtain a commitment from Congress to fund \$13 billion backlog of infrastructure repair at the nation's National Parks, including Stones River Battlefield in Murfreesboro. Part of the task is to recruit grassroots and grassroots advocates in Murfreesboro and Rutherford County.

Coalition for Safe and Affordable Food

Hilltop Public Solutions

In a similar campaign that reached into counties across the state, CPS recruited local Farm Bureau Presidents to oppose overly stringent food labeling requirements. Again, due to Rutherford County's prominence, it was one of the bigger successes to recruit the Rutherford County Farm Bureau President into the coalition.

Tri-Star StoneCrest Medical Center

HCA

Through StoneCrest's parent company, HCA, CPS has provided government relations and market-specific consulting to the Rutherford County facility on an ongoing basis since 2009.

TN Supreme Court Retention Campaign

3 Supreme Court Justices

CPS successfully directed a campaign in favor of retaining three Tennessee Supreme Court justices, in what was a highly contentious election. Due to its size, Rutherford County figured prominently in the vote and was one of the bigger targets of the campaign.

Amazon

The Tobin Company

Cooley Public Strategies provided grassroots consulting services to Amazon during the siting of the company's facility in Rutherford County in 2011.



Proposal for a Solid Waste Disposal Feasibility Study

4 – Approach to Project

4.1 - Approach

Rutherford County (County) and City of Murfreesboro (City) have requested proposals from professional consultants to undertake an effort to plan and conduct a solid waste disposal feasibility study (Project). The Project's objective is to identify and evaluate available technologies to expand, supplement, or replace the existing infrastructure to manage the community's solid waste management needs into the next 20-40 year horizon. The most pressing challenges facing the County and the City at present are remarkable population growth for the past four census-takings—which growth is expected to continue in the coming decades—and locally-available private disposal capacity for both MSW and debris which is projected to be full within the next nine years. A secondary challenge is to increase recycling and waste diversion, both due to the environmental benefits and the cost factors associated with diminishing local disposal capacity and the new costs that will need to be borne from a system that does not include the significant host community benefits both the County and City derive from the local privately-owned landfill.

4.2 - Understanding

Rutherford County (County) is one of the top five most populated counties in Tennessee, and its population growth is expected to be the highest in the State of Tennessee¹. The current County population is approximately 300,000, and by 2030 the population is expected to reach 420,000. As mentioned previously, this population growth is one of the most pressing issues in solid waste management in the County and the City.

The County provides solid waste disposal and recycling services to its residents through 14 convenience centers (branded as Recycling Centers) and one recycle only center. There is no curbside collection of recyclables. The County Solid Waste Department operates the 14 convenience centers and provides front-end loader recycling and waste collection and transportation services for all 59 County and city schools. The County also owns and operates the Rutherford County Landfill, a Class III/IV facility, which is limited to the receipt of yard waste, brush, construction and demolition waste, and shredded tires. The Rutherford County Landfill is expected to reach capacity in four years. For MSW disposal services, the County currently disposes approximately 258,000 tons of solid waste per year at the locally-available private landfill through its Host Community Agreement.

The County's recycling rate is approximately 17 percent. To improve recycling in the County, the County recently launched a campaign known as "Operation: Rutherford Recycles". This campaign includes better signage at the convenience centers and a public education initiatives.

The City, which is the County seat, operates one convenience center and provides residential curbside garbage and yard waste collection services. Recycling services are provided at the convenience center. The City also operates the Murfreesboro Mulch facility to manage yard waste and brush.

The County is home to the Middle Point Landfill (Landfill), owned and operated by Republic Services, Inc. (Republic). The Landfill is a Class I landfill has an annual permitted capacity of 1.092 million tons and in

¹ Population Projections for the State of Tennessee, 2010-2030; The University of Tennessee Center for Business and Economic Research; June 2009



Proposal for a Solid Waste Disposal Feasibility Study

4 – Approach to Project

2014 received 910,000 tons. Given that the County only disposed 258,000 tons in 2014, the remaining 652,000 tons originated from 18 other counties. According to 2015-2025 Tennessee Solid Waste and Material Management Plan, the Landfill is estimated to reach capacity around 2027.² However, the County believes it is more likely that the Landfill will reach capacity somewhere around 2022 to 2024.

Both the County and City enjoy host community relationships and significant benefits with Republic related to the Landfill. Free disposal is provided to the County for residential waste delivered from the County and the City. The current quantity of solid waste delivered from the County and City to the Landfill is approximately 80,000 tons, of which the City delivers approximately 42,000 tons. The County receives a host benefit from Republic of \$1.20 per ton of out-of-county waste disposed at the Landfill.

The Landfill discharges leachate to the City's sewer system and receives a 50 percent surcharge over the standard rates of the Murfreesboro Water and Sewer Department. In addition to free solid waste disposal and the sewer fee surcharge, the City also receives other benefits related to solid waste and recycling services such as the provision and hauling of solid waste dumpsters at several City properties, provision and hauling of containers for solid waste and recycling at the City's convenience center, and revenues from the sale of recyclables collected at the City's convenience center.

Republic sources other waste for the Landfill from contracts it has with local governments (e.g. Metropolitan Government of Nashville and Davidson County), its own collection services in the region, and from private haulers and local governments that deliver waste either directly to the Landfill or to Republic's nearby transfer station in Nashville.

It is not clear what Republic's plans are for expanding the Landfill with additional permitted capacity. Middle Point's manager has indicated to the County that they will probably not seek an expansion of the Landfill due to a soil deficit. Republic may seek to develop a transfer station and enter into a public private partnership with the County.

The Landfill has been under public scrutiny due to odors associated with the facility. In November 2015, a public meeting was held with several environmental groups and neighbors of the Landfill to discuss current and future options.

In 2027, or when the current permitted capacity is exhausted, the County and City's host community benefits will end. To frame the potential economic impact of this, consider if future landfill gate rates in the region might be \$40 per ton and the cost to for a transfer station and hauling services to add another \$15 per ton, i.e. \$55 per ton total for estimating purposes. For the 80,000 tons per year that the County and City currently collectively manage through Republic and its Landfill, there could be a new expense in the magnitude of \$4.4 million to fund, in addition to the loss of host community financial benefits noted above that the County and the City enjoy. Because of this, and to ensure for the proper management of their solid wastes, the County and the City are interested to explore alternatives to the Landfill and a new system and paradigm for waste management in the County and the City.

² 2015-2025 Solid Waste and Materials Management Plan; for the Tennessee Department of Environment and Conservation; April 22, 2015.



Proposal for a Solid Waste Disposal Feasibility Study

4 – Approach to Project

In evaluating its options, the County is interested to do this in coordination with cities in the County and nearby local governments (counties and cities). Some of the cities to include are: Murfreesboro, Smyrna, La Vergne, and Eagleville. The City of Woodbury and Cannon County may also be included, along with Wilson, Coffee, and Bedford Counties. Because the Metropolitan Government of Nashville and Davidson County (Metro Nashville) is a significant user of the Landfill, it may be worthwhile to include them in the discussions.³ An organizational approach to bringing about a regional project is establishing an autonomous authority to be responsible for waste management in order to remove some of the politics out of decision making related to day-to-day and long-term commitments related to solid waste management.

The County and City should also consider all proven approaches giving priority to implementing approaches under public private partnerships. Approaches should include more recycling, composting, waste-to-energy, and conversion technologies in addition to transferring its non-recycled waste to other landfills in the region.

4.3 - Proposed Scope

GBB proposes to conduct a planning and public decision-making process in order to consider:

- Technology and management options for the future solid waste management system;
- Who the solid waste management system should serve;
- How the system should be implemented; and,
- How the system will be administered.

Given that a significant timeline would be required to develop a new system and paradigm, decisions will need to be made in the near future to provide for a smooth transition from the current services to the future system. It is expected that the decision-making process will need to be conducted in phases.

The first phase is suggested to define which public entities will be part of a future solid waste management system, the possible establishment of a countywide or regional authority, and preliminary consideration of solid waste management options. Future phases could include:

- Characterization of solid waste for the waste shed;
- Advanced analysis of solid waste management options;
- Consideration of changes to the solid waste collection practices;
- Identification of potential site(s) for solid waste facilities;
- Procurement of solid waste management technologies;
- Project and program development options including the use of public private partnerships; and,
- Options for the funding of the solid waste management system.

For the purposes of this proposal, GBB proposes to work with the City and County on the first phase of the decision-making process. We propose the following tasks for the first phase of work.

³ Metro/Davidson County's current contract with Republic Services' Middlepoint Landfill prevents it from entering into a new, post-collection waste diversion methods until that contract ends.



Proposal for a Solid Waste Disposal Feasibility Study

4 – Approach to Project

Task 1 Project Management and Kickoff

The outputs of the Project Management task will be monthly status reports submitted as part of our invoicing activity, with information on work performed, milestones accomplished, and outputs produced. During regularly scheduled status calls (usually every-other-week), GBB will further update the County and City regarding findings and recommendations, issues identified, delays encountered, and next steps. GBB will also attend and record notes from meetings. GBB anticipates using recordings to capture the meetings and preparing notes or minutes afterwards, in order to allow the staff in attendance to fully participate

Approximately three weeks after notice-to-proceed, GBB will travel to Rutherford County to begin several days of research and teamwork. This visit will begin with the Kickoff Meeting, where GBB will meet with County and City staff to clarify the project goals, develop the project schedule, learn of any specific issues or policies, and begin the process of developing the outputs.

Some questions GBB will seek answers and clarity for include:

- What are the current and potential maximum capacity levels of the regional landfills in addition to the Landfill?
- What is the current and projected population growth and waste generation within Rutherford County and Murfreesboro?
- What is the future need for waste disposal based on projected demand and capacity?
- What are the projected costs and revenue stream for operation and maintenance of the solid waste programs?
- Are there viable sites within the County for developing new transfer station, composting, waste-to-energy, landfill, or recycling facilities to reduce transportation costs for waste and recyclables within the County?
- Will the political and social climate in the County and the City support changes to meet the future needs?
- Can the County and City secure long-term disposal contracts with other counties or private landfill operators outside the County and at what cost?
- Will the political and social climate in the County and City support changes and additional cost impacts/increases?
- What are the permitting/regulatory requirements and environmental issues for new infrastructure being considered?

Task 2 Workshops with Potential Public Partners

GBB will facilitate a series of three (3) workshops with the County and potential public partners that the County and City wishes to include. Such potential partners could include Murfreesboro, Smyrna, La Vergne, and Eagleville, Woodbury, Cannon County, Mt. Juliet, Lebanon, Tullahoma, Manchester, Shelbyville, and Metro Nashville.

Workshop 1

During the first workshop, the following items may be discussed:

- Purpose of the proposed decision-making process;
- Current status of solid waste management with the public entities;



Proposal for a Solid Waste Disposal Feasibility Study

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- Potential organization of a county or regional authority;
- Pros and cons of a county or regional authority;
- Initial identification of future needs;
- Technology and management options of interest to the group, which may include:
 - Continuing the current system, e.g. reliance on the Landfill, if that is an option;
 - Utilizing a potential transfer station at the Landfill site in a public private partnership with Republic Services;
 - Developing other transfer station(s) to access other landfills;
 - Developing facilities for recycling, fuel production, and/or waste-to-energy within the County;
 - Changing programs and services for recyclables and solid waste set-out, collection, and storage to match selected technologies; or,
 - A new composting or landfill site.
- Proposed schedule for the future workshops.

Workshop notes will be developed and distributed to all attendees for review and comment.

Workshop 2

During the second workshop, GBB could present information to the attendees, such as:

- Options for organization of a countywide or regional authority;
- Analysis of future recycling and solid waste management needs;
- Preliminary analysis of identified technology and management options, including:
 - Potential facility sizing;
 - Capital costs;
 - Operating costs;
 - Funding options such as tipping fees, property assessments, and others to be considered;
 - Example locations with similar facilities and funding approaches; and,
 - Implementation schedules.

GBB would facilitate a discussion of the analysis and other issues or items raised by the attendees. Additional research or analysis may be identified during the workshop. Workshop notes will be developed and distributed to all attendees for review and comments.

Workshop 3

As needed, GBB will provide additional analysis based on questions, issues, or items raised during Workshop 2. GBB will facilitate the workshop with the goals of:

- Identification of an organizational structure for the agreed-upon public entities, such as a countywide or regional authority;
- Selection of preferred technology and management systems to future evaluate;
- Consideration of public input to the development of a Strategic Plan; and,
- Outlining of next steps to develop and implement a Strategic Plan.



Proposal for a Solid Waste Disposal Feasibility Study

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Task 3 Public Input Process

Based on all the input from the workshops, GBB will work with the County and the City and other partners to create a public involvement process. Elected officials should be included in the evaluation process as it proceeds. With input from stakeholders and elected officials, short-listed concepts should be evaluated further, making sure there is an understanding of the impact on the costs for solid waste services. Strategic relationships should also be identified amongst both public and private parties.

When developing the Strategic Plan, full disclosure of the current situation and the existing costs will be presented. Stakeholders can be asked to identify the most important objectives or evaluation criteria to be considered when evaluating the different options. Criteria can include:

- Fairness or equity;
- Fiscal accountability;
- Reasonableness of rates;
- Linkage of fees to the services provided;
- Ease of administration;
- Environmental impacts;
- Incentives to reduce and recycle waste or to work on other policy objectives;
- Revenue adequacy; and,
- Revenue stability.

GBB proposes to assist the County and the City in planning approximately three public-facing information activities. Examples of these activities include holding a public forum, participation in a community event, appearing at an existing meeting, conducting intercept or online interviews, and static displays or signage. GBB anticipates that some of the actual outreach—for example, staffing of a display booth at a community event or speaking at a meeting—would be planned by GBB and executed by County or City staff. GBB has used this approach with other projects and it has been shown to be an efficient use of resources.

Task 4 Development of a Strategic Plan

Based on the outcome from Tasks 1, 2, and 3, GBB will then develop a Strategic Plan for the County, the City, and other public partners. The Strategic Plan will:

- Present a summary and evaluation of the current solid waste management and recycling system for the County and City and other selected partners;
- Present a projection of future solid waste management and recycling needs;
- Identify initial goals, objectives or policy considerations;
- Present the proposed organizational structure including initial staffing needs and operational costs;
- Summarize the public involvement process;
- Present and evaluate the preferred technology and management systems; and
- Outline the implementation of the Strategic Plan.

GBB will present the draft Strategic Plan to the County and City and each of the other public partners at one or more public meetings. GBB will receive input from the County and City and other public partners on the draft plan and provide the County and City and other public partners with a final Strategic Plan.



Proposal for a Solid Waste Disposal Feasibility Study

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Task 5 Implementation Assistance

The objective of this task is to support the County and the City as it begins to implement the new system and paradigm shift to a future system as determined by the elected officials of the County and the City and other participating entities.

The deliverables for this task will be determined as a result of the support requested by the County and the City. GBB will stand ready to support the process with objective and non-conflicted interests.

4.4 - Schedule

GBB expects the first phase of the process to take approximately 11 months as follows:

Task 1	one month
Task 2	five months
Task 3	three months
Task 4	two months
Task 5	to be determined

Rutherford County (County) and City of Murfreesboro (City) have requested proposals from professional consultants to undertake an effort to plan and conduct a solid waste disposal feasibility study (Project). The Project's objective is to identify and evaluate available technologies to expand, supplement, or replace the existing infrastructure to manage the community's solid waste management needs into the next 20-40 year horizon. The most pressing challenges facing the County and the City at present are remarkable population growth for the past four census-takings—which growth is expected to continue in the coming decades—and disposal capacity for both MSW and debris which will be consumed in the next nine and four years, respectively, if not sooner. A secondary challenge is to increase recycling and waste diversion, both due to the environmental benefits and the cost factors associated with diminishing local disposal capacity.



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Proposal for a Solid Waste Disposal Feasibility Study

5 – Key Personnel

Provided in this section is the organizational chart proposed for this assignment. Resumes are provided in Appendix A as they do not count against the page limit of the Proposal, as per the Request for Competitive Sealed Proposals.

Harvey Gershman, GBB President, has been active in the solid waste management field as an adviser to government and industry for over 40 years, specializing in strategic guidance and infrastructure and services development assistance to solid waste service/system managers and owners. He has managed the preparation of many long-term plans, market studies, cost and independent feasibility analyses, technology reviews, contractor procurements, contracts development and negotiations, and project financing activities for a broad range of recycling, composting, solid waste management, waste-to-energy, and district energy projects. He was overall Project Director for GBB's engagement with the Metropolitan Government of Nashville and Davidson County, TN, that included a strategic review of solid waste management alternatives, a re-engineering of all solid waste management services, and the development and implementation of the District Energy System.

He will serve as Officer-in-Charge for this assignment. As such, he will provide internal peer review, quality assurance, participation in visioning sessions and briefings, and overall leadership for projects.

John Carlton, P.E., BCEE, GBB Senior Vice President, has more than 25 years of solid waste management experience as a consultant and in executive positions for public-sector authorities. As a consultant, he has over 13 years of experience with strategic solid waste management plan development, waste-to-energy projects, and procurements projects. He also has over 12 years of experience as Executive Director of the Pollution Control Financing Authority of Warren County, in Oxford, NJ, and as Director, Division of Solid Waste and Recycling Services, of the Hunterdon County Utilities Authority, in Flemington, NJ. He successfully administered annual budgets of \$15 million, and oversaw a waste-to-energy facility, transfer station, landfill, recycling programs, household hazardous waste and electronics collection programs, educational programs, and enforcement programs

He will be the Project Manager for this assignment. As such, he will manage the day-to-day activities of the members of the GBB Project Team, lead and coordinate the tasks performed by the subcontractors, and act as the point of contact with assigned City/County staff.

Lori Scozzafava, GBB Vice President, Operations Officer, has over 25 years of solid waste management industry experience, including 15 years in high profile leadership roles with the Solid Waste Association of North America, the US Composting Council, and the Composting Council Research & Education Foundation. She has extensive project management, recycling, and composting expertise.

Steve Simmons, GBB Vice President, has more than 30 years of experience in the energy and environmental services sectors. He has extensive renewable energy experience, having managed the development, construction, and operation of power generation projects with capital budgets in the hundreds of millions of dollars. These facilities have produced millions of megawatt-hours of renewable energy, displacing millions of tons of fossil fuels.

Kate Vasquez, GBB Senior Consultant, has over 13 years of experience in recycling, solid waste reduction, and solid waste management. She has worked in strategic planning; solid waste management; regulatory



Proposal for a Solid Waste Disposal Feasibility Study

5 – Key Personnel

implementation; events planning; and public relations. Prior to joining GBB, she worked as Management Analyst II at the Division of Solid Waste Collection and Recycling of Fairfax County, VA, a large suburb of Washington, DC, and as a Research Analyst at the Office of Solid Waste Management of Loudoun County, VA.

Two sub-contractors are joining the GBB Project Team for this assignment:

- **TriAD:** Based in Nashville, TN, project team members from TriAD will provide the team with engineering support and cost estimates for proposed infrastructure improvements.
- **CPS:** With offices in Nashville, TN, and Washington, DC, CPS will assist the project team in planning and executing the workshop and public outreach sessions.

Key staff from the sub-contractors includes:

Jeff Postell, P.E., TriAD Senior Engineer, has 21 years of experience with the investigation, design, and remediation of numerous solid and hazardous waste projects. For Rutherford County Solid Waste Department, he was the Project Manager and Senior Engineer responsible for ongoing groundwater and methane monitoring activities at the co-located closed Class I landfill and open Class IV landfill facility.

Nancy B. Sullivan, P.E., TriAD Senior Project Manager/Engineer, has 30 years of experience in the civil and environmental engineering field with primary emphasis on solid waste facility permitting, remediation design and oversight, and storm water management. She has been the Senior Project Manager responsible for the preparation of Solid Waste Management Plans serving Metropolitan Nashville and Davidson County, Tennessee; NAS Keflavik, Iceland; NAS Yorktown, Virginia; NAS Oceana, Virginia; NSGA Sugar Grove, Sugar Grove, West Virginia; Naval Hospital Portsmouth, Virginia; NAS Sigonella, Sicily, Italy; NSA Naples, Naples, Italy; NSGA Edzell, Edzell Scotland; and NSGA Sebaná Seca, Puerto Rico.

Chris Scott, P.G., TriAD Project Manager / Senior Hydrogeologist, has more than 29 years of experience performing and managing diverse geological and environmental projects, including multimedia hydrogeological investigations, soil and groundwater remediation, water supply, and water quality assessments. For the Rutherford County Class I and Class III/IV Landfill, he was Senior Hydrogeologist for groundwater monitoring and reporting. He has provided service to a wide range of private and governmental clients, including to the Metropolitan Nashville and Davidson County; Tennessee Department of Transportation; EPA; Tennessee Department of Environment and Conservation; and the Tennessee Valley Authority.

Workload / Availability of the GBB Project Team: The GBB Project Team has the ability and availability to devote sufficient time to perform this project within the timeline discussed in section 4. The GBB Project Team has concurrent assignments that are typical for GBB / TriAD / CPS as they start and stop with task activities complete and client review time ongoing. Team members will make necessary arrangements for increased availability for this assignment when needed, depending on the priorities and the tasks at hand. It is expected that, at times, this assignment will require full-time dedication, but that will ebb and flow over the Project's duration, and we will adjust our schedules to do this as this Project requires.



Proposal for a Solid Waste Disposal Feasibility Study

5 – Key Personnel

Dave Cooley, CPS, his work in public affairs has spanned four decades, serving clients that range from healthcare to energy to environment, in the corporate, non-profit, and government sectors. As Deputy Governor for former Tennessee Governor Phil Bredesen, he was lead strategist for the Administration's agenda and chief political strategist to the governor in projects that crisscrossed the state. Prior to that, Cooley was Deputy Mayor when Bredesen served as mayor of Metro Nashville during a surge of economic development and growth that continues today.

In both public and private sectors, he has been a consultant on major economic recruiting/siting projects and has a strong record of success in government procurement. On controversial land use issues, Cooley has led successful efforts in favor of and in opposition to projects. He has crafted a number of public-private partnerships (P3) where projects hinged on innovative financing.

Terry Quillen, CPS has worked more than 40 years in communications, both within legacy media and managing coverage for the political, private, and non-profit sectors. She spent the majority of her newspaper career in opinion, as an op-ed and political analysis editor and member of the editorial board for Nashville's daily newspaper.

As a consultant in mainstream and online media, Quillen has managed campaigns for a worldwide transportation company, a national foundation promoting clean energy, and a number of regional companies with land-use challenges. She has a solid record of pitching coverage to print, online, and broadcast reporters, and setting up editorial board meetings across Tennessee. Quillen is skilled in writing op-eds as well as press releases that get published. She also has vast experience in coaching clients on handling media questions and social media as well as coordinating messaging and media for a number of issue advocacy campaigns.

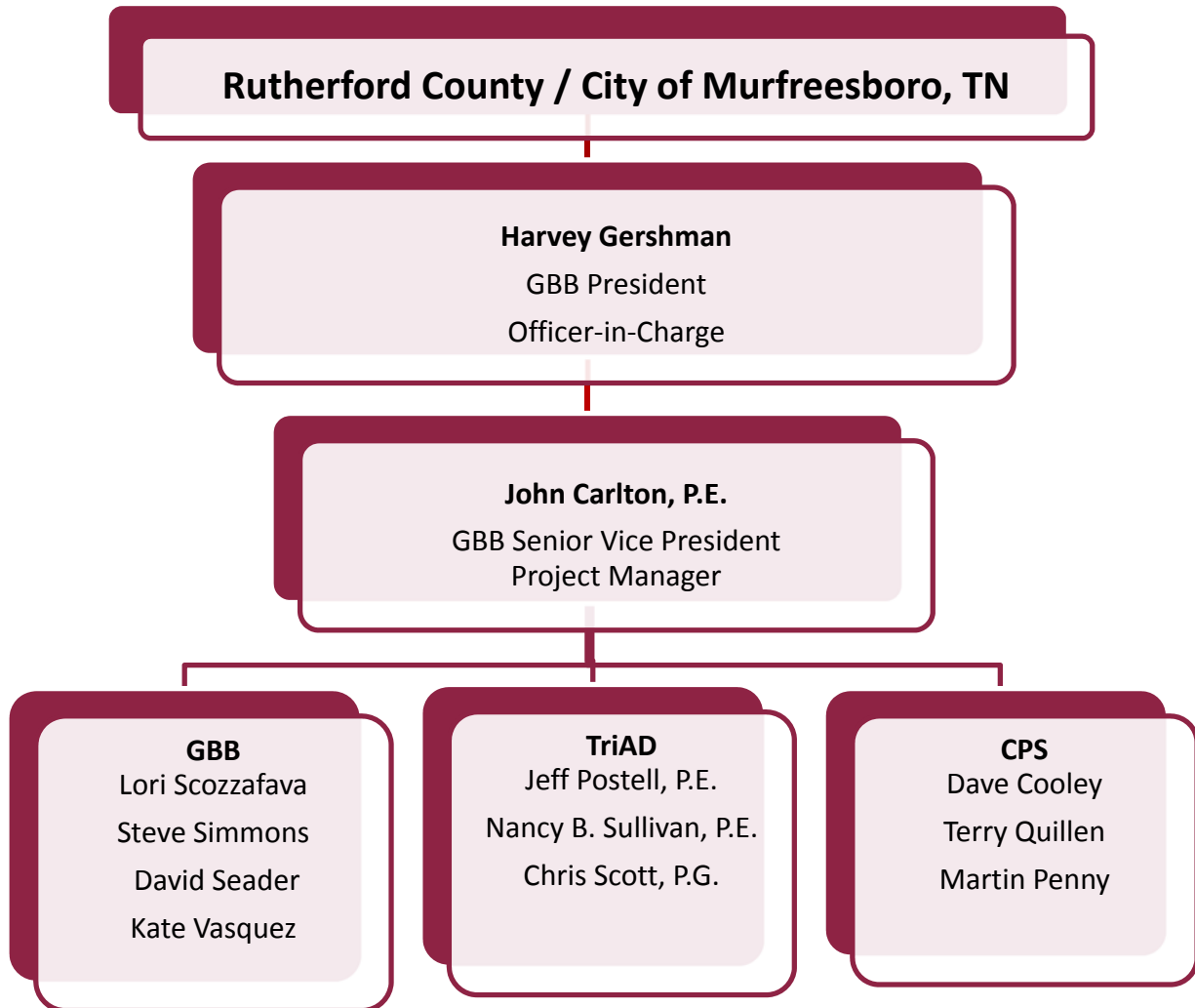
Martin Penny, CPS, specialist in grassroots and grassroots organizing, having served as Lead State Field Organizer for the Pew Environment Group. He has worked on numerous issue advocacy campaigns and has developed a network of advocates that crosses business and industry as well as the government and non-profit sectors. His range of issues has spanned energy and utilities, healthcare, agriculture, and transportation, as well as conservation and the environment.

As part of his issue advocacy work, Penny has run numerous events, including round table forums and networking opportunities for grassroots and grassroots supporters. He has collaborated with Chamber of Commerce groups across Tennessee, from the smallest county organizations to the state Chamber. Penny also has built support for issues among the local and state leadership of the Farm Bureau.

Staff Substitution: The main GBB Project Team will be augmented by other GBB / TriAD / CPS consultants and staff as needed. Staff addition and/or substitution will be done only after formal approval from Rutherford County / City of Murfreesboro, TN.



5 – Key Personnel





Proposal for a Solid Waste Disposal Feasibility Study

Appendix A - Resumes

Provided in this section are 1-page resumes of the members of the GBB Project Team, as requested on page 11 of the Request for Competitive Sealed Proposals. Complete resumes are available upon request.

Harvey Gershman

John Carlton, P.E., BCEE

Lori Scozzafava

Steve Simmons

Kate Vasquez

Jeff Postell, P.E.

Nancy B. Sullivan, P.E.

Chris Scott, P.G.

Dave Cooley

Terry Quillen

Martin Penny





Proposal for a Solid Waste Disposal Feasibility Study

Appendix A - Resumes

Harvey Gershman - GBB President



Mr. Gershman has been active in the solid waste management field as an adviser to government and industry for over 40 years, specializing in strategic guidance and infrastructure and services development assistance to solid waste service/system managers and owners. He has managed the preparation of many long-term plans, market studies, cost and independent feasibility analyses, technology reviews, contractor procurements, contracts development and negotiations, and project financing activities for a broad range of recycling, composting, solid waste management, waste-to-energy, and district energy projects. These projects have resulted in sustainable, efficient integrated waste management systems accepted by the community and its leadership.

As a thought leader, Mr. Gershman is a sought-after presenter at national industry conferences, and many other regional conferences. He also regularly contributes articles to leading industry publications. In 2013, the Solid Waste Association of North America (SWANA) presented him with the Robert L. Lawrence Distinguished Service Award, one of the highest honors in the solid waste industry, for his significant contribution to the solid waste management profession. In 1993, he was awarded SWANA's Professional Achievement Award.

Education: B.Sc., Mechanical Engineering, Northeastern University, 1971

Selected Representative Experience

Mr. Gershman was overall Project Director for GBB's engagement with the Metropolitan Government of Nashville and Davidson County, TN. GBB's work started with a strategic review of solid waste management alternatives. After reviewing the alternatives, the Metro administration decided to completely re-engineer all of its solid waste management services in a two-pronged approach: first, replace the existing and aging WTE facility with a replacement natural gas and electricity fueled energy generation facility to serve its downtown district energy customers; second, contract for transfer and disposal, initiate curbside recycling, upgrade drop-off centers, improve collection performance, and add systems to track performance measures. GBB managed the various procurements and contracting process to implement these changes.

Officer-in-Charge for the strategic planning assistance provided by GBB to the Connecticut Resources Recovery Authority as it is in the process of responding to a variety of business challenges, including providing information and a transition plan in response to recent Connecticut state legislation.

Office-in-Charge for GBB which has been appointed as Receiver for the Solid Waste Management Division of the Department of Public Works in Guam in a March 2008 Court Order issued by the United States District Court of Guam.

Officer-in-Charge for the Solid Waste Management Plan update for Davis and Morgan Counties, UT, within the Wasatch Integrated Waste Management District.



Proposal for a Solid Waste Disposal Feasibility Study

Appendix A - Resumes

John G. Carlton, P.E., BCEE - GBB Senior Vice President



Mr. Carlton has more than 25 years of solid waste management experience as a consultant and in executive positions for public-sector authorities. As a consultant, he has over 13 years of experience with strategic solid waste management plan development, waste-to-energy projects, procurements, landfill baseliner and closure designs, and landfill photovoltaic projects. He also has experience with environmental site assessments, environmental permitting, energy audits, energy conservation retrofit measures, and water conservation and wastewater planning. He also has over 12 years of experience as Executive Director of the Pollution Control Financing Authority of Warren County, in Oxford, NJ, and as Director, Division of Solid Waste and Recycling Services, of the Hunterdon County Utilities Authority, in Flemington, NJ. He successfully administered annual budgets of \$15 million, and oversaw a waste-to-energy facility, transfer station, landfill, recycling programs, household hazardous waste and electronics collection programs, educational programs, and enforcement programs

Education: BS, Civil and Environmental Engineering, Duke University, School of Eng., Durham, NC

Professional Registration and Certification

- Registered Professional Engineer, New Jersey and Maryland
- American Academy of Environmental Engineers Board Certification in Solid Waste Management

Selected Representative Experience

Project Manager for the City of Fort Worth, TX, Comprehensive Solid Waste Management Plan development.

Project Manager and Officer-in-Charge of the Chester County Solid Waste Management Plan development.

Project Manager of the evaluation of development options for the Cleveland Recycling and Energy Generation (CREG) Center project for the City of Cleveland, OH.

Project Manager of the solid waste collection franchise procurement project for Madera County, CA.

Project Manager for the Harford County, MD, Full Cost Accounting and Contract Collection Evaluation.

Project Manager for the Connecticut Resources Recovery Authority, CT, Transition Plan.

Project Manager for the Madera County, CA, Solid Waste Management Strategic Planning and Operator Procurements.

Project Manager for the Jordan Energy Sector Capacity Building Activity Waste-to-Energy Tender Preparation.



Proposal for a Solid Waste Disposal Feasibility Study

Appendix A - Resumes

Lori Scozzafava - GBB Vice President, Operations Officer



Ms. Scozzafava has over 25 years of solid waste management industry experience, including 15 years in high profile leadership roles with the Solid Waste Association of North America (SWANA), the US Composting Council (USCC), and the Composting Council Research & Education Foundation (CCREF), where she provided valuable strategic and operational leadership, improved bottom lines, revitalized operations and finance, and managed significant growth of total net assets. She has extensive project management, recycling, and composting expertise.

During her career, she has received several industry recognitions, including being named one of the top Women in Environmental Management by Waste & Recycling News and one of seven "Up-and-Coming" professionals in the recycling and composting industries by Resource Recycling magazine.

Education: MBA, Business Management with a concentration in Marketing, University of Maryland - Robert H. Smith School of Business; BA, Environmental Science, Bucknell University

Certification: Association Executive (CAE) through American Society of Association Executives

Association and Public Sector Experience

Executive Director - US Composting Council & Composting Council Research & Education Foundation

Hired to turn around finances, improve the organization's influence and expand membership value. Reporting to the Boards, provided strategic and operational leadership for both organizations. Improved programs (certification, education, and training), communications, advocacy, finances, planning, fundraising, and staff performance. Managed a staff of seven and a \$1.5 million budget. Serviced 800 member companies in the composting industry.

Deputy Executive Director - Solid Waste Association of North America

Reporting to the Executive Director, directly supervised Administration, Membership, Information Technology and Database Implementation as well as a \$5.4M budget and staff of 23 staff (including four direct reports.) Developed and led strategic planning, budgeting and forecasting. Tracked and evaluated the implementation of programs and services. Provided oversight for legal and insurance compliance. Interacted with a Board of 68 and 8,000 members representing all aspects of solid waste management (from landfilling to recycling.)

Director of Technical Programs - Solid Waste Association of North America

Developed / implemented training, education and technical assistance programs. Managed WASTECON technical programs, training and certification, specialty symposia and workshops, technical publications and policies. Supervised staff of five.

Division Manager, Recycling Services Division - Maryland Department of the Environment

Directed the State of Maryland's \$4 million program for 21 counties. Developed and led a team of program managers and enforcement officers (6 direct reports). Managed public outreach; technical assistance; policy development permitting; contract management; enforcement; and coordination among organizations, businesses, state agencies and counties.



Appendix A - Resumes

Steve Simmons - GBB Vice President



Mr. Simmons is a sustainable development business leader with more than 30 years of experience in the energy and environmental services sectors. He is highly experienced in program and project management, new business development, waste and power marketing, technology evaluation, business financial modeling, profit and loss management, facility design, procurement, and construction having worked with leading international energy operating companies and engineering/consulting firms.

Throughout his career, he has helped communities and companies develop programs and projects implementing the 3 E's of sustainability: ecology, economy, and equity. He has extensive renewable energy experience, having managed the development, construction, and operation of power generation projects with capital budgets in the hundreds of millions of dollars. These facilities have produced millions of megawatt-hours of renewable energy, displacing millions of tons of fossil fuels.

As an asset and P&L manager, he directed the sales, marketing, governmental, and community affairs efforts of renewable energy business unit with \$65 million in annual sales and 125 employees. He was part of a team that took on a troubled facility and brought it from an annual \$10 million loss to a \$5 million profit in 3 years, winning an award from the Pennsylvania Governor for Environmental Excellence with our community outreach program.

While with Duke Energy, he led the new business development team for ADAGE LLC, a joint venture between Duke and AREVA focused on the biopower sector. Facilities were developed that converted forestry waste into clean renewable energy, using a facility design that the US Department of Energy recognized as an innovative technology for its biomass loan guarantee program.

Technology-wise, Mr. Simmons led due diligence investigations of a number of high-tech gasification, pyrolysis, and combustion systems. He recently served as the Vice President of Project Development for the US and Caribbean basin with a company focused on producing renewable energy using its proprietary plasma gasification system.

Education: Professional Certificate, Energy Policy and Sustainability, University of Denver; B.S., Mechanical Engineering, University of Missouri - Rolla

Selected GBB Consulting Experience

Researched and reviewed military/government steam sales agreements, prepared comparison matrix, and provided input on steam sales approach as member of the GBB Project Team that performed a 10-year energy recovery facility operations and capital plan for Wasatch Integrated Waste Management District, UT.

Assisted a confidential private-sector client with a review of business expansion market opportunities, waste stream analysis, and development planning.



Proposal for a Solid Waste Disposal Feasibility Study

Appendix A - Resumes

Kate S. Vasquez - GBB Senior Consultant



Ms. Vasquez has over 14 years of experience in recycling, solid waste reduction, and solid waste management. She has worked in strategic planning; solid waste management; regulatory implementation; events planning; and public relations. Ms. Vasquez is accomplished in communications with residents and businesses, elected officials, and the regulated community; research, reporting, and presentation; and, legislative analysis. As part of the GBB team, Ms. Vasquez is involved in private sector and public sector projects aimed at increasing diversion, expanding and encouraging program participation, improving collection operations, and all aspects of solid waste planning.

Prior to joining GBB, she worked as Management Analyst II at the Division of Solid Waste Collection and Recycling of Fairfax County, VA, a large suburb of Washington, DC. Previously, Ms. Vasquez first entered the solid waste field as a Research Analyst at the Office of Solid Waste Management of Loudoun County, VA.

Education: Bachelor of Arts, Political Science with concentration in Legislative Process, University of Memphis; Master of Public Administration with concentration in State and Local Government, Syracuse University; SWANA Certified Recycling Manager, 2012 – present; SWANA Certified Recycling Associate.

Selected Representative Experience

Project Manager of the development of a 20-year Solid Waste Management Plan for the City of Fairfax, VA.

Reviewed waste reduction and recycling programs for the City of Fort Worth, TX as part of the solid waste management planning process.

For Prince William County, VA, Ms. Vasquez worked on a project with ongoing and frequent communication with the public in the form of surveys, both in person and online, and site visits. The project, aimed at improving recycling, required great amounts of research into the thoughts, opinions, and attitudes of the residents, businesses, and property managers in this suburb of Washington, DC.

At GBB, Ms. Vasquez has worked with private corporations and municipal governmental entities to improve recycling systems by applying up-to-date technology and research. She has worked with clients to identify portions of the waste stream that are increasingly recyclable due to process developments and customer engagement. Through these methods, she helps clients more fully implement recycling and waste reduction and key tools in an integrated solid waste management system.

For Rockingham County, NC, provided comprehensive analysis and recommendations to improve and expand curbside collection in the incorporated towns and to update the existing drop off centers to be more user-friendly and provide better material to a relatively new regional MRF.



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Appendix A - Resumes

Jeff Postell, P.E. - TriAD Senior Engineer



Mr. Postell is a registered professional engineer with 21 years of experience with the investigation, design, and remediation of numerous solid and hazardous waste projects. These projects have included: Subtitle D landfill permits, monitoring, designs, and closure, CERCLA remedial designs and remedial action plans; RCRA corrective action plans, closure plans, and stabilization initiative designs; Tennessee Division of Solid Waste Management (TDSWM), Tennessee State Remediation Program (TSRP) and Tennessee Division of Remediation (TDOR) remedial investigations and remedial designs. Mr. Postell has served as Project Manager and Construction Quality Assurance Inspector/Officer at numerous sites engaged in active remediation under RCRA, CERCLA, TDOR, TDSWM, and TSRP. In addition to these projects, he has developed and aided in the development of numerous Solid Waste and Hazardous Waste Management Plans, Storm Water Pollution Prevention Plans, Spill Prevention, Control, and Countermeasures Plans, and Phase I Environmental Site Assessments.

Education: MS, Civil Engineering (Environmental Engineering Emphasis), Tennessee Technological University, Thesis Title: "Utilization of By-Products from Ceramic Tile Manufacturing"; BS, Civil Engineering (Environmental Engineering Emphasis), Tennessee Technological University

Registrations: Professional Engineer – TN, AL, GA, CA; OSHA 29 CFR 1910.120 Health and Safety Training (40 hours) HAZWOPER; OSHA 29 CFR 1910.120 8-Hour Supervisor Training for Hazardous Waste Operations; DOT 49 CFR Subpart H Training Certification; TDEC Workshop, Fundamentals of Erosion Prevention and Sediment Control (Level I); American Society of Civil Engineers

Selected Consulting Experience

Rutherford County Solid Waste Department, Rutherford County, Tennessee. Project Manager and Senior Engineer responsible for ongoing groundwater and methane monitoring activities at this co-located closed Class I landfill and open Class IV landfill facility. Designed cap repair and storm water management activities to reduce leachate and gas generation due storm water infiltration. Prepared and obtained minor modifications for enhanced leachate removal systems. Re-designed an expansion to an existing sediment pond to account for additional storm water generated at the landfill. Developed final grading plans for the Class IV landfill. Prepared Construction and Multi-Sector Storm Water Pollution Preventions for the site.

United States Navy, Atlantic Division (LANTDIV). Member of the site investigation team which prepared the Solid Waste Management Plan for numerous United States Naval Facilities.

Sanders Lead Company, Troy, Alabama. Assisted with the development of a RCRA Stabilization Initiative Work plan and the Stabilization Initiative Designs for three SWMUs which have the potential to affect offsite receptors.

United States Army Corps of Engineers Nashville District, Fort Campbell, Kentucky. Developed Interim Measures Work Plan for a SWMU.

McRedmond Brothers Dump Site, Nashville, Tennessee. Engineer responsible for the investigation and the developed the Remediation Plan of an abandoned dump at a former meat packing plant..



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Appendix A - Resumes

Nancy B. Sullivan, P.E. - TriAD Senior Project Manager/Engineer



Ms. Sullivan has 30 years of experience in the civil and environmental engineering field with primary emphasis on solid waste facility permitting, remediation design and oversight, and storm water management. Recent assignments have included the management and technical supervision of solid and hazardous waste remediation projects including remedial alternative selection, design, bid document preparation, and construction oversight. Her storm water experience includes drainage and sedimentation designs for numerous developments including Storm Water Pollution Prevention Plan preparation for industrial, commercial, and municipal facilities. She also has extensive experience in landfill design and permitting including the elements of facility planning, site selection, investigation, development, construction management, and environmental monitoring. She has a thorough knowledge of state and federal environmental regulations and their potential impact on existing and future developments.

Education: BE, Civil/Environmental Engineering, magna cum laude, Vanderbilt University; BS, David Lipscomb University

Registrations: Professional Engineer (TN, FL, GA, KY, AL); CPESC

Selected Consulting Experience

Solid Waste Management Plans. Senior Project Manager responsible for the preparation of Solid Waste Management Plans serving Metropolitan Nashville and Davidson County, Tennessee; NAS Keflavik, Iceland; NAS Yorktown, Virginia; NAS Oceana, Virginia; NSGA Sugar Grove, Sugar Grove, West Virginia; Naval Hospital Portsmouth, Virginia; NAS Sigonella, Sicily, Italy; NSA Naples, Naples, Italy; NSGA Edzell, Edzell Scotland; and NSGA Sebaná Seca, Puerto Rico.

Sanders Lead Company, Troy, Alabama. Senior Engineer responsible for the preparation of a Stabilization Initiative for an onsite wetland and the preparation of an Interim Measures Work Plan for various solid waste management units (SWMU's) located at this lead smelting site in Troy, Alabama.

Lexington-Bluegrass Army Depot. Project Engineer responsible for the development of field investigation plans, coordination of sampling and analytical activities, and the development of a RCRA Facility Assessment Engineering Report for eight potential solid waste management units. Served as Site Health and Safety Officer during the field investigation.

Senior Project Manager for the Metro Public Works 5-year contract to provide Environmental Engineering Services to the Metro Public Works Department. Services provided during contract administration included environmental monitoring at five former municipal landfills, UST Program Management, solid waste diversion option review, regulatory coordination, convenience center design and construction, safety program review, wetland delineation, and NEPA permit assistance.



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Appendix A - Resumes

Chris Scott, P.G. - TriAD Project Manager / Senior Hydrogeologist



Mr. Scott is a registered professional geologist with more than twenty-nine years of experience performing and managing diverse geological and environmental projects, including multimedia hydrogeological investigations, soil and groundwater remediation, water supply, and water quality assessments. His responsibilities include supervising other geologists; preparing work plans; managing drilling operations and installation of monitoring wells and piezometers; planning, conducting, and interpreting pump, slug, and pressure tests to determine aquifer characteristics; logging soil and rock samples; performing Phase I and II environmental site assessments; and compiling data from numerous sources into comprehensive geological and hydrogeological reports. He has worked on projects involving Resource Conservation and Recovery Act (RCRA), RCRA Subtitle D Landfill, Coal Combustion Residue (CCR), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Underground Storage Tank (UST) regulations and is familiar with U.S. Environmental Protection Agency (EPA) sampling protocols. He has provided service to a wide range of private and governmental clients, including Metropolitan Nashville and Davidson County, Tennessee Department of Transportation, EPA, Tennessee Department of Environment and Conservation, Tennessee Valley Authority, U.S. Navy CLEAN, and the U.S. Army Corps of Engineers. Mr. Scott is also familiar with environmental applications of geophysical methods.

Education: M.S., Geology, Northern Illinois University; B.S., Geology, Eastern Michigan University

Special Training: The Princeton Course: Groundwater Pollution and Hydrology, January 1994; OSHA 29 CFR 1910.120 Health and Safety Training (40 hours) Hazardous Waste Operations and annual 8-hour updates; OSHA 29 CFR 1910.120 8-Hour Supervisor Training for Hazardous Waste Operations; OSHA 29 CFR 1910.120 Confined Space Entry Training

Certifications: Professional Geologist (P.G.), TN, WY, IN, KY, PA, GA

Selected Consulting Experience

Rutherford County Class I and Class III/IV Landfill; Walter Hill, Tennessee. Senior Hydrogeologist for groundwater monitoring and reporting at a closed Class I and operating Class III/IV landfill in complicated hydrogeologic environment. Work included assessment and updating of existing groundwater monitoring network, including replacement of a monitoring well and installation of dedicated bladder pumps; preparation of a Groundwater Monitoring Plan and Assessment Monitoring Plan; working with Tennessee Division of Solid Waste Management (TDSWM) personnel to address regulatory issues; directing monitoring well development and sampling efforts; evaluating monitoring data; and routine groundwater reporting.

Metro Nashville Public Works Facilities, Nashville, Davidson County, Tennessee. Senior Hydrogeologist for groundwater monitoring at multiple closed municipal Class I and Class II landfills.

Thermal Ash Landfill; Metropolitan Government of Davidson County; Nashville, Tennessee. Project Manager of a hydrogeological study for expansion of a landfill receiving ash from a thermal recovery plant.



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Appendix A - Resumes

Dave Cooley, Cooley Public Strategies, LLC, Principal

Experience

- Jan. 2007 – Present **Cooley Public Strategies, LLC, Principal**
- Jan. 2003- Jan. 2007 **State of Tennessee, Deputy Governor**
Senior non-elected official in state government; Chief strategist for Administration agenda; COO of \$25 billion enterprise with 27 cabinet members and 38,000 employees
- Nov. 2002 – Jan. 2003 **Governor-elect Transition Team, Director of Transition**
CEO of Transition Development and Operations; Chief of team development to build cabinet and gubernatorial agenda, in 48 business days
- April 2001 – Nov. 2002 **Bredesen for Governor, Senior Strategist/ CEO**
Directed victory of a Democrat in a “Red State” – second time in 26 years.
- Oct. 1993 – Dec. 2002 **McNeely Pigott & Fox, Partner**
Principal strategist and practitioner for more than 100 public affairs and public relations campaigns on the national, regional, and local levels; variety of clients including NFL Tennessee Titans, Colonial Pipeline Co., AT&T, HCA, Adelphia, Dell Computer, consortium of 23 newspapers and publications, Wal-Mart, as well as dozens of other companies and organizations
- Aug. 1991- Oct. 1993 **Mayor’s Office, Chief of Staff to the Mayor**
Chief political strategist during one of the most progressive times in Nashville history
- 1988-1991 **Cooley Associates, Owner**
Political funding-raising, management, and general consulting for numerous congressional, gubernatorial, and legislative campaigns throughout the South and Midwest
- 1987-1989 **Tennessee PSC, Chief of Staff to Chairman Cochran**
Chief strategist for statewide elected official during deregulation of telecommunications and trucking industries
- 1986-1987 **Tennessee Medical Assoc., Executive, Managed Care Dev.**
Assisted with the formation of statewide physician owned and operated HMO-IPA

Education

- 1984-1987 University of West Florida - M.A., Rayburn Dirksen National Institute
1981-1984 Tennessee Tech University - B.A. Education and History

Activities and Awards

- Harry S Truman Foundation Scholarship Regional Selection Panel, chair since 1993- present
- Truman Council, tasked with raising \$50 million+ for Truman Foundation, 2015-present
- Music City Bowl Board
- 100 Most Power People in Tennessee, TN Business Magazine, '01-'05
- Most Powerful Nashvillian, 1992, repeated various years
- Truman Scholar, 1982
- Marathon walk/run



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Appendix A - Resumes

J. Martin Penny

Education

M.S., May 2012 – Lipscomb University, Nashville Degree: Environmental Sustainability

M.P.A., May 2010 – The University Of Tennessee, Knoxville

B.A., May 2007 - The University Of Tennessee, Knoxville Degree: Political Science, Magna Cum Laude

Experience

Cooley Public Strategies, Nashville, TN (April 2011-Present)

- Lead State Field Organizer, Pew Environment Group on Clean Energy and Public Lands Campaigns
 - Specialize in issues management, public advocacy and government procurement.
 - Promote strong conservation policies in the United States and internationally through grassroots organizing, field development and strategic planning.
 - Worked with representatives at Oak Ridge National Laboratory on issues ranging from electric vehicle infrastructure to renewable energy policy.
- Statewide Research And Government Relations
 - Conduct and prepare market analysis and local research.
 - Lobby federal and state legislative members on issues related to energy, health care and agriculture.
- Event Organizing
 - Organized groundbreaking events for HCA, Sarah Cannon Research Institute and Greyhound.
 - Planned events for dignitaries including former Michigan Governor Jennifer Granholm, Mark Shriver, former Tennessee Governor Phil Bredesen, and Nashville Mayor Karl Dean.
- Chamber and Organization Relations
 - Collaborated with U.S. Chamber of Commerce, Tennessee Chamber of Commerce and Industry and local chambers of commerce.
 - Collaborated with the Tennessee Farm Bureau on numerous agricultural issues.
- Policy Initiatives
 - Promoted key changes to U.S. energy policy in four sectors: industry, utilities, transportation and research.
 - Developed and managed field programs for electoral campaigns, corporations, issue-based organizations, and ballot initiatives on national, state and local levels.

Associate Business Development Manager, Bold Planning Solutions, Nashville, TN May 2010-December 2010

---Accountable for identifying new business opportunities for the leading provider of proprietary web-based planning tools and services for municipalities, financial institutions, and organizations in the public sector.

---Developed a process to manage the firm's regulatory review and final RFP submissions in new markets.

Legislative Intern, Office of Senator Joe Haynes, 106th Tennessee General Assembly,

Nashville, TN Spring Semester, 2009 - University of Tennessee; M.P.A. Legislative Internship

Honors & Community Involvement

- Davidson County UT Alumni Association, Board Member
- Special Olympics Tennessee, Young Executive Board
- Phi Beta Kappa, The University of Tennessee at Knoxville
- Omicron Delta Kappa National Leadership Honor Society, University of Tennessee Circle
- Mortar Board Honor Society, Membership Chair
- Sigma Chi Fraternity, Order of Omega
- UT Volunteer Athletic Scholarship Fund, Student Intern
- Elected to Nashville's 30 under 30



Appendix A - Resumes

Terry R. Quillen

Education:

- Bachelor of Arts, Vanderbilt University, 1975 (Major in French, speaks fluent French.)

Professional Experience:

Senior Communication Manager, Cooley Public Strategie (2011-Present)

- Managed media for clients, including a worldwide transportation company; a national foundation promoting clean energy; regional companies with land-use challenges.
 - Pitched coverage to print, online, and broadcast reporters.
 - Set up and participated in editorial board meetings across the state.
 - Wrote op-eds, press releases.
 - Coached clients on handling media questions.
- Organized grassroots and grasstops support for clients including a national pharmaceutical trade association; several non-profit organizations needing support for legislation at local, state, and federal levels.
 - Recruited community supporters to sign Letters to the Editor, call and email legislators.
 - Recruited local and regional opinion leaders to join coalitions, contact members of Congress.
 - Coached clients in assembling the most effective supporters for public events.
- Managed the Tennessee arm of a national campaign for immigration reform.
 - Recruited opinion leaders in the Hispanic, faith, academic, and activist communities to advocate for reform with members of Congress by phone, in visits to district offices.
 - Organized an immigration forum in one of the state's largest cities, got top print and broadcast coverage.
 - Conducted an editorial board tour across the state for local business and academic leaders to talk about immigration reform, resulting in across-the-board editorial support.

Political Communication Consultant (2008-September 2011)

- Managed communications in a successful Metro Council campaign.
- Managed online and media communications, and a staff of interns and volunteers for a veteran State Senator's successful primary campaign.
- Managed communications, policy formulation for a U.S. Senate primary campaign.

Press Secretary, TN Senate Democratic Caucus (February 2009-January 2010)

- Managed media, including press conferences, releases, and interviews for a 14-member legislative caucus.
- Obtained weekly spots on op-ed page, local radio for caucus members and wrote their content.
- Set up websites, social media for caucus and most members of the caucus; wrote copy, assembled all visuals.

The Tennessean and Gannett News Service (July 1975- August 2007)

- Editor of op-ed page and Sunday political section, member of editorial board for major daily newspaper.
- Assembled and recruited local and national analysis and commentary.
- Handled editing and electronic production of pages in print and online.
 - Participated in editorial board decisions, including dozens of political endorsements.
- Deputy news editor, assistant national editor in DC for service providing coverage for 90-newspaper chain.
- Editor of daily newspaper's three regional zoned editions.
- Served as copy editor, layout editor, and national/international wire editor.



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B.1 - GBB – Selected Project Descriptions

Provided in this section are descriptions of selected GBB projects in areas of expertise relevant to the long term recycling / solid waste management challenges faced by Rutherford County and the surrounding cities, highlighting GBB's wide-range of expertise and resources:



B.1.1 – Feasibility Studies

B.1.2 – Waste-to-Energy and Conversion Technologies

B.1.3 – Solid Waste Authorities Projects

B.1.4 – Long Term Strategic Solid Waste Management Planning

B.1.5 - Collection

B.1.6 – Recycling / Material Recovery Facilities

B.1.7 – Transfer Stations

B.1.8 – Landfills

B.1.1 - Feasibility Studies

GBB has prepared feasibility reports and provided its expert opinion for the financings of many waste and recyclables management facilities, including materials recovery facilities, waste-to-energy plants, transfer stations, compost facilities and landfills. Also, GBB has been retained by major banks, bond insurers, and casualty insurers to independently evaluate proposed or existing facilities and give them an expert opinion as to the project's technical and management soundness, economic forecast, and credit-worthiness (Please refer to the select list below). GBB has been invited from time to time to provide review and comment in their publications and articles addressing solid waste project credit issues.

Much of GBB's work has focused on emerging issues and trends, such as economic flow control; privatization and public/private partnerships; landfill monetization and leasing; collection franchising; routing and route optimization; automated collection; rate reform; full cost accounting; special waste stream management; construction and demolition (C&D) recycling; adding non-traditional materials to existing recycling programs; unit pricing and pay-as-you-throw systems; managed competition; railhaul of waste; managing waste as a commodity; single-stream recycling; and materials recovery facility (MRF) and long-haul transfer planning and procurement.

Further, GBB has been contracted by various parties seeking to acquire waste processing and disposal facilities or technology licenses, to conduct technical and financial due-diligence evaluations of candidate facilities, sites, and related business assets, and to provide analysis and opinion as to their viability and



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forecasted economic results. In addition, GBB is frequently retained to provide expert witness, dispute resolution, and litigation support services, addressing issues ranging from waste flow control and market conditions and characteristics to worker health and safety, facility performance, and patent infringement.

Selected List of Clients for Independent Financial Reviews or Feasibility Studies for Securities Offerings

Independent Reviews

- Union Bank of Switzerland
- National Westminster Bank
- Financial Guaranty Insurance Company
- General Electric Corporation
- Crisfield Energy Limited Partnership
- Walt Disney Imagineering
- Chubb Group
- DOWA International
- Virginia Power
- Potomac Capital Investment Corporation
- Russell, Rea & Zappala
- Legeis Resources, Inc.
- Brooklyn Union Gas Company
- Ozonics, Inc.
- Boardman, Suhr, Curry & Field
- American Cyanamid
- City of Milwaukee Controller's Office
- State of Massachusetts
- State of Minnesota

Feasibility Studies for Securities Offerings

- Metropolitan Government of Nashville and Davidson County
- Town of Babylon, New York
- City of Springfield, Massachusetts
- St. Lawrence County, New York
- Mifflin County (Pennsylvania) Solid Waste Authority
- Dauphin County (Pennsylvania) Intermunicipal Solid Waste Authority
- Northeast Maryland Waste Disposal Authority
- Legg Mason Wood Walker, Inc.

Provided below are descriptions of selected feasibility studies:

Waste-to-Fuel Feasibility Study

(City of Plano, Texas)

GBB was selected to prepare a Feasibility Study to explore the possibility of building a waste-to-fuel facility in the area. The assignment includes exploring refinement technologies to produce valuable fuel from various waste sources including wood waste and Municipal Solid Waste (MSW). The technologies researched include pyrolysis, gasification, plasma and torrefaction along with investigating the use of refinement technologies to convert waste streams into fuel products such as biodiesel or compressed gas for fleet use.



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Waste-to-Energy Feasibility Review / Preliminary Cost Model / Procurement

(Emerald Coast Utilities Authority (ECUA), Pensacola, Florida)

GBB performed a site assessment and provided a briefing on the state of waste conversion technologies to the Authority. GBB also prepared a preliminary economic feasibility review of a preliminary conceptual design of a system appropriate in size for the expected receipt and processing in a Mixed Waste Processing Facility (MWPF) of solid waste over 5.5 days per week. As part of the assignment, GBB provided a cost model of the capital and O&M cost estimate of the facility and performance expectations. The preliminary Operations & Maintenance (O&M) cost estimate of the energy plant included energy production and revenue estimates. The project also included the compilation of a Draft Request for Qualifications which outlined the basic interests of the ECUA, the attributes that it maintained to support such a project, including the potential roles for interested parties with availability for the MWPF and the "Energy from Waste Facility." GBB then reviewed the 4 Statement of Qualifications that were received.

Prince William Energy Park (PWEP) - Technical and Economic Feasibility Study and Project Plan

(Prince William County, Virginia)

GBB was selected to explore the renewable energy technologies available for use on the County landfill. For technologies found to be applicable for the site, GBB investigated their technical requirements and limitations, order-of-magnitude costs, revenue potential, market maturity and acceptability. GBB also analyzed and presented implementation options for the Prince William Energy Park (PWEP), including ownership options, financing and cash flow implications, risk allocations, management roles and requirements, procurement implications, and present the options to the County.

Based on the results of the analysis and the procurement process selected by the County, GBB prepared a preliminary development plan outlining the potential uses of the site, the roles and responsibilities of the development team members, the scheduling of the development process, and preliminary financial projections for the County.

As part of the feasibility analysis, GBB considered the impact of the redevelopment of the site on the regulatory requirements for post-closure care, on-site and off-site land use and environmental considerations, permitting requirements, electrical interconnection requirements and costs, energy markets, funding sources, development costs of the County, procurement issues and other related matters.



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Assessment of Waste Processing Technologies including Economic Feasibility

(Olver Inc., Orange County, North Carolina)

GBB prepared a state-of-the art assessment of the technical maturity, economic feasibility, effectiveness and environmental issues, including permitting of candidate waste processing technologies (WPTs). Additionally, waste-to-energy (direct combustion and processed fuel), plasma arc, pyrolysis (thermal gasification) and biological fuel production were included. The report reviewed the status of proven and alternative WPTs, including descriptions of the processes; the characteristics of their operations, including their efficiencies, their current stage of development, their requirements and limitations, the economics of their operations (if known) and their environmental impacts. In addition, the report provided conclusions and recommendations on the applicability of one or more of these technologies to the solid waste stream in Orange County, North Carolina. In developing the report, GBB reviewed literature, surveyed representative vendors, utilized in-house databases and consulted other related available information. GBB delivered a draft final written report to a public municipal board as well as conducted a workshop for their members on alternative waste processing technologies discussed.

Feasibility of Waste Processing Technologies

(Rhode Island Resource Recovery Corporation (RIRRC))

GBB was engaged by the RIRRC to prepare a report for the RIRRC board addressing the economic feasibility, effectiveness and environmental issues of candidate waste processing technologies (WPTs). RIRRC manages the landfill which disposes of 3,000 tons per day of waste generated in Rhode Island. The landfill is approaching its capacity, therefore, RIRRC wanted a report on alternatives. The report was drafted and reviewed the status of proven and alternative WPTs, including descriptions of the processes, the characteristics of their operations, their efficiencies, their current stage of development, their requirements and limitations, the economics of their operations (if known) and their environmental impacts. In developing the report, GBB reviewed the literature, interviewed representative technology vendors and others with knowledge of the applicable WPTs, utilized in-house databases, and consulted other related available information.



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Full-Service Procurement Assistance – Resource Recovery Facility

(Town of Babylon, New York)



GBB managed the full-service procurement for a 225,000 tons-per-year resource recovery facility for the Town of Babylon. The facility is sized to produce 17 Mw of electrical energy for sale to the Long Island Lighting Company. GBB's role was to manage the overall procurement and development process, which entailed preparing the necessary Request for Proposal documentation, advising the Town on

procurement strategy, conducting a proposers conference, evaluating proposals, advising on proposer selection, leading negotiations with the selected contractor, participating in permitting and financing activities, preparing a bond issue feasibility report, and monitoring construction activities. Close coordination with Babylon's other legal and financial advisors was maintained.

GBB also prepared the Feasibility Report for the official statement, which raised \$88.9 million in industrial development bonds. The facility was financed in December 1985 and construction began in spring 1986. GBB monitored the design and construction of the Babylon Resource Recovery Facility, as well as the start-up and acceptance tests. The Facility achieved commercial operation in April 1989, and since then GBB has been monitoring the Facility operation for compliance with the Service Agreement and various environmental, legal, and financial requirements. From project conception to commercial operation, GBB worked closely with the Town of Babylon in managing their Resource Recovery Facility development.

GBB has monitored the operation of the Babylon Resource Recovery Facility on behalf of the Town. GBB's efforts in this respect have caused the facility efficiency to be improved significantly, resulting in near optimal distribution of waste into the facility and maximizing net electricity revenues to the Town. These efforts equate to several million dollars per year of benefits to the Town.

Waste-to-Energy System Procurement

(City of Springfield, Massachusetts)

For the City of Springfield, Massachusetts, and five area communities, GBB assisted in the procurement of a 360 TPD waste-to-energy cogeneration project. GBB was involved in overall project evaluation, including the facility's technical configuration, life-cycle economic analysis, procurement negotiations, bond feasibility study, and financing. GBB provided construction monitoring, start-up monitoring assistance, and monitoring of performance testing of the Facility. GBB developed a procurement strategy; prepared and issued an RFP for a full-service waste-to-energy systems contractor; evaluated proposals and conducted negotiations with the selected developer; attended meetings and briefings with the City



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and participating towns, state officials, and the media; and prepared the bond feasibility study for the project financing. Negotiations with the waste-to-energy project vendor, Fluor/Vicon, were completed, and the facility was financed in July 1986.

The facility has been designed to generate electricity and simultaneously supply steam to the nearby Springfield Regional Wastewater Treatment Plant. This cogeneration option, which GBB helped structure for the City, reduced the proposed service fee for solid waste disposal.



GBB served as an independent engineer and construction monitor on behalf of the contract communities. Facility construction progressed in accordance with the schedule, and acceptance testing was completed. The facility is now in commercial operation.

Management Consulting Services for Project Feasibility

(Harford County, Maryland)

GBB provided management consulting services to the Northeast Maryland Waste Disposal Authority (NMWDA) for the determination of project feasibility, final planning, and implementation of a 300 TPD plant in Harford County. The steam market is the U.S. Army's Aberdeen Proving Grounds. The feasibility of cogenerating electricity for sale to Baltimore Gas & Electric was also investigated.



GBB assisted in all phases of project development, including: definition of the waste stream through a weighing and composition analysis program; development of waste control legislation; evaluation of landfill effects; structure of long-term markets for recovered materials and steam purchase agreements; assistance in public participation program; life-cycle economic analysis; site analysis; and assistance in evaluating, selecting, and negotiating with a full-service system contractor.

Throughout the project, GBB addressed the full range of problems associated with resource recovery facility implementation, from responding to the public's questions to assigning risk through a detailed full-service procurement process and negotiation.

After a two-stage procurement process, a vendor was selected in February 1984 for development of the project, and the project was escrow financed in December 1985, with ultimate financing in 1986. GBB assisted in the bond feasibility study by providing the waste supply analysis, review of key technical and



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regulatory risks, and a review of operating costs. The project was constructed and has been operating successfully for over 20 years.

Landfill Feasibility Study for Revenue Bond Financing

(Mifflin County, Pennsylvania)

On behalf of the Mifflin County Solid Waste Authority, GBB prepared an independent third-party feasibility assessment to assist the Authority in deciding on landfill expansion. Areas addressed in the feasibility study included technical, legal, and financial, and an alternative sites evaluation.

The technical analysis of the proposed facility included environmental considerations such as ground water and surface water quality; geologic, topographic, and soil considerations; and air quality. The proposed landfill design, operations, and permit application data were carefully scrutinized. Financial considerations examined included revenue sources, such as tipping fees and disposal contracts, and project costs, such as site development, field development, equipment, field closure, annual operation and maintenance, bonding, postclosure operations and regulatory fees. When all parameters and assumptions related to the project were defined and risks and tipping fees determined under various sensitivity analyses, the County decided to pursue permitting and development of the landfill.

As part of the continuing effort, the Mifflin County Solid Waste Authority hired GBB as its bond feasibility consultant to assist in securing tax exempt revenue bond financing to pay a portion of the capital costs associated with the landfill expansion. Based on GBB's Bond Feasibility Report, the Authority obtained an investment grade rating from Moody's and Standard & Poors, and successfully closed on a \$7.66 million revenue bond financing.

Transfer Stations & Landfill Facilities - Bond Feasibility Study

(St. Lawrence County, New York)

For the St. Lawrence County Solid Waste Disposal Authority, GBB prepared a Bond Feasibility Report issued in connection with the development and operations of two solid waste transfer stations located in Star Lake and Gouverneur, New York, and the acquisition and management of three existing sanitary landfills located in Ogdensburg, Massena and Canton, New York.

GBB staff reviewed the design and operational plans of the two transfer stations, which included a site analysis, review of the projected service area, a forecast of solid waste generation in the area, environmental impacts and operational considerations. An opinion of the development and capital cost requirements, operational expenses, and estimated service fees was part of the Bond Feasibility Report. Approximately \$5.36 million of Solid Waste Disposal Revenue Bonds were sold, and the two transfer stations were implemented.



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Feasibility Analysis

(Prince George's County, Maryland)

For the Maryland Environmental Service, Prince George's County, and the University of Maryland (College Park), GBB was the prime consultant in the feasibility evaluation of a 1,200 TPD resource recovery project in Prince George's County. GBB led a multi-disciplined team that analyzed the feasibility and development program for a cogeneration system that would use solid waste as fuel, and would provide steam to a district heating system at the University and electricity to the University or the local utility.

Consultant services included, identification and assessment of existing solid waste management practices (including transportation and disposal); a detailed siting study and assistance in site selection and engineering design; analysis of required commitments from waste suppliers, energy markets, and residue bypass waste disposal points; development of life-cycle cost analyses of available technological alternatives; analyses of technical parameters for final facility design including the University's steam distribution system and transportation network; identification of permit requirements and preparation of environmental assessment and air quality modeling; development of appropriate procurement and financing strategies; and workshops and public seminars to discuss the project. The feasibility analysis revealed that project development was not cost competitive with other local alternatives at the time.

B.1.2 – Waste-to-Energy and Conversion Technologies

Having worked on approximately 200 assignments involving utilization of waste for its energy content since 1980, and tracking 475+ alternative conversion technology companies, GBB has a significant amount of waste-to-energy (WTE) and conversion technologies (CT) experience from initial feasibility study and economic analysis to vendor negotiations, assisting in financing activities by coordinating the process and preparing the feasibility reports for the official statements, and monitoring construction and commercial operations as well.



In its February 5, 2011 edition, *The Economist* references GBB's research on WTE and CT in an article entitled, "Turning Garbage into Gas."

Recently, GBB has worked on several projects addressing the economic feasibility, effectiveness and environmental issues of candidate waste processing technologies. GBB's knowledge and experience enables the firm to evaluate technologies and operations, including the potential to use alternative fuels and provide recommendations that take into account technical, legal, and economic issues. GBB is currently providing guidance to communities within and outside the United States in the evaluation and procurement of WTE and CT projects.



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GBB also recently reviewed the biodiesel production facility for the County of Maui, HI and performed WTE and/or CT technology reviews/feasibility evaluations for the Solid Waste Authority of Palm Beach County, FL; Rhode Island Resource Recovery Corporation; City of Allentown, PA; and several confidential clients. GBB is currently working on a waste-to-ethanol project in Mississippi and with Prince William County, VA on a project that includes the development and procurement of a waste conversion demonstration plant. Additionally, GBB completed a technology assessment of waste-to-energy for the Electric Power Research Institute which utilizes the resulting evaluations in the annual updates of its Renewable Energy Technology Guide.

GBB is very proud of past project assistance that resulted in successful operating and sustainable WTE facilities such as feasibility, development, procurement, implementation assistance for the Northeast Maryland Waste Disposal Authority for the Baltimore “BRESKO” facility (2,250 TPD) and in Harford County (300 TPD); full-service procurement for a 225,000 TPY resource recovery facility for the Town of Babylon, NY; procurement, negotiation, and monitoring of a 360 TPD cogeneration project in Springfield, MA; and contracting and project development coordination, strategic analysis, retrofit management, and project administration for 975 TPD facility in the City of Alexandria and Arlington County, VA.

Evaluation of Municipal Solid Waste-to-Energy Power Plants

(Electric Power Research Institute, Inc. (EPRI))

GBB was selected by EPRI to prepare a detailed engineering and economic evaluation for the use of Municipal Solid Waste (MSW) as fuel in the generation of power utilizing various conversion technologies and parameters. The intent of the evaluation was to provide a current status on the technologies associated with MSW, including performance data, cost (capital, operation and maintenance (O&M), and levelized cost of electricity (LCOE)), and prospects for future improvement of the technology types. The study is part of EPRI’s overall research and development relating to the generation, delivery, and use of electricity for the benefit of the public.

The GBB Project Team developed the design basis and economic assumptions for use in the evaluation. Technology overviews were performed, summarizing factors such as regulatory environment affecting the implementation and use of MSW conversion technologies; current status and maturity of developing waste conversion technologies; and a summary of the O&M-related differences between each. The technologies evaluated were mass-burn WTE facilities; refuse-derived fuel-co-firing systems; and landfill gas utilization, along with providing an overview of other MSW conversion technologies. EPRI will utilize the resulting evaluations in the annual updates of its Renewable Energy Technology Guide (RETG), which is a key product of its renewable energy program (Program 84).



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Waste-to-Energy Procurement Assistance / Tender Preparation

(Deloitte Consulting LLP, Amman, Jordan)

Due to the desire for improved energy security, Jordan is pursuing long-term initiatives such as improved energy efficiency and alternative energy supplies. One potential long-term energy supply for Jordan could be a municipal waste-to-energy (WTE) facility. The United States Agency for International Development (USAID) is supporting Jordan's energy security through the Energy Sector Capacity Building (ESCB). Deloitte Consulting LLP has a task order contract to implement the ESCB activities.

The ESCB assisted the Greater Amman Municipality (GAM) and the Ministry of Energy and Mineral Resources (MEMR) in developing procurement documents for a municipal WTE facility. Amman Jordan generates approximately 3,000 tons per day of solid waste, which is delivered to a transfer station and transported to a landfill approximately 40 miles from Amman. This solid waste may be able to fuel a WTE, reducing landfill disposal, and create energy security for Jordan.



*John Carlton, GBB Senior Vice President, and
Ljupka Arsova, GBB Consultant II,
in Amman, Jordan.*

GBB was retained by the ESCB to develop a “results-oriented” procurement process following a Request for Expressions of Interest (RFEI) issued by MEMR which resulted in submission by companies offering technologies for the production of refuse-derived fuels (RDF) and WTE.

Tender Preparation

Given the complexity of the proposed project, the tender document provided for a pre-proposal meeting with prospective proposers, three (3) deadlines for questions and requests for clarification, and three (3) rounds of responses to the questions or requests for clarifications. Developing responses to questions or requests for clarifications required expert assistance. Therefore, GBB was asked to assist GAM during the tendering process and provide the following services:

- Assistance with the Pre-Proposal Meeting;
- Assistance with the Three Rounds of Proposal Questions or Requests for Clarifications.



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WTE Proposals Evaluation and Negotiation Support

(City of Allentown, Pennsylvania)

GBB was selected by the City of Allentown to help evaluate two proposals it received in response to a Request for Proposals (RFP) soliciting the development of a waste-to-energy facility on a portion of a site where its wastewater treatment facility is located. GBB reviewed the proposals, participated in interviews with the proposers, assisted the Evaluation Committee with the evaluation of the technical proposals, and prepared a summary evaluation memorandum with its findings. GBB also assisted the City in the negotiation process with the selected developer, and prepared a brief “white paper” on MSW gasification technologies.

Independent Certification Engineer Services of Huntsville Solid Waste-to-Energy Facility

(Solid Waste Disposal Authority of Huntsville, Alabama)

The Solid Waste Disposal Authority of Huntsville, Alabama, contracted with GBB to provide Independent Certification Engineer Services for certifying performance and acceptance tests of the 690 TPD Huntsville Solid Waste-to-Energy Facility. The facility accepts wastes generated by residential, commercial and industrial sources; has two separate furnace and boiler systems each with a rated capacity of 345 TPD; and sells the generated steam to the U.S. Army Redstone Arsenal. GBB conducted a review of the

Acceptance Test Protocols and Procedures; monitored the Facility Acceptance Test; evaluated the Test results; and reviewed the OMSH Certification of Performance Guarantees, and Certification of Performance Data. GBB concluded that the facility had the ability to satisfy all Performance Guarantees.

Mississippi Waste-to-Ethanol Project

(Confidential Client)

For a private confidential corporate client, and working in concert with a multi-county public sector solid waste authority in Mississippi, GBB assisted in the preparation of a detailed design and economic study for a 230,000 ton-per-year (TPY) mixed waste processing facility (MWPF) to produce recyclable materials and a biomass grade feedstock, also known as refuse-derived fuel (RDF). As the client’s lead solid waste consultant, GBB assisted with the definition and review of the process flow diagram (PFD); compiled detailed waste composition assumptions; material recovery estimates; facility conceptual design; equipment system configuration and performance reviews; and ultimate project cost estimates (capital costs and preliminary O&M costs). This project effort also included an additional 75,000 - 100,000 TPY of wood waste processing generating fuel pellets for use in the client’s biorefinery. The purpose of this MWPF is to beneficiate materials which can produce a specification for RDF from MSW as a feedstock for



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the bioreactor, achieve certain levels of recyclables separation, and process woody waste and organics into bio-refinery feedstock.

GBB assisted in creating the initial design parameters and ultimately reviewed each component within the processing system, including design performance expectations and costs in creating a preliminary 20-year lifecycle cost analysis. The bio-refinery will operate on a 24/7 basis and the MWPF front-end processing will operate in conjunction with the local authority landfill on a six- (6) day-per-week basis, processing MSW two shifts per day.

GBB helped to develop the conceptual design for the tipping hall of the pre-processing system and process design of the MWPF and wood waste delivered to the facility, for the sole purpose of producing the RDF specified and separating recyclable materials using manual sorters, screens, magnets, air-density separators and optical sorting equipment, for example, to prepare the products for off-site markets.

An equipment list indicating type, capacity and function within the process was developed along with a specific PFD indicating placement within the process flow and indicating the material stream processed and quantity of recyclable material expected to be recovered. GBB also assisted our client with developing a site plan drawing for the pre-processing facility using the site-specific data.

GBB assisted in developing a detailed capital cost model for the pre-processing facility. The capital cost estimates that GBB provide included the following program elements:

- Building estimated costs including the receiving, processing and bale storage building areas and equipment foundations;
- Site work and utilities cost estimates;
- Rolling stock (facility mobile equipment) cost estimates.

Southwest Waste-to-Energy Facility

(City of Baltimore, Maryland)

GBB has been a management consultant to the Northeast Maryland Waste Disposal Authority (NMWDA) since it began operations in November 1980. GBB's initial assignment to the NMWDA was to assist in the procurement and development of a 2,250 TPD cogeneration plant in the City of Baltimore to serve part of that region. GBB contributed to the vendor procurement and negotiation process which resulted in selection of a vendor to design, construct, and operate the project.





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GBB's efforts included researching all large-scale resource recovery facility RFQs and RFPs for background data before preparation of the procurement documents; preparing a risk matrix and a responsibility matrix of the project team for preparation of procurement documents; evaluating vendors' Qualifications Statements; developing the initial draft of the RFP/Basis of Negotiation (BON) document and drafting contracts for a full-service procurement; reviewing contract documents with NMWDA's legal counsel; preparing a detailed evaluation of the technical and economical submissions per BON bid forms and requirements; evaluating the specific capital cost components of the proposals and analyzing Baltimore Gas & Electric's full avoided costs for both company and regional grid interconnection; providing a report on the amounts and types of insurance coverage provided at similar resource recovery projects around the nation; participating in the solicitation and selection of an investment banking team to underwrite and issue bonds for the project; drafting the RFP for a third-party engineer for the bond prospectus and advising in the selection and contracting process; and participating in negotiations with the contractors.

A combination of approximately \$190 million of resource recovery revenue bonds and \$45 million of letters of credit notes for the 2,250 TPD southwest facility went to market in January 1983 and construction began in March 1983. The facility which originally expected to be operating by spring 1986 was significantly ahead of the construction schedule and became fully operational in early 1985.

Waste Conversion Technology Procurement to Process Multiple Feedstocks

(Wicomico County, Maryland)

Aiming to expand its capacity to manage wastes from residents and industry, Wicomico County decided to pursue an alternative technology to further extend the life of its landfill resources as well as produce energy and/or fuel. GBB was selected to assist with the procurement of a full-service design-build-own-operate developer of an emerging MSW conversion technology (e.g., pyrolysis, gasification, anaerobic digestion, plasma torch, etc.) facility that can process approximately 600 tons per day of MSW, chicken litter and other waste generated in the County.

In coordination with the County, GBB assisted in evaluating RFP responses, recommending the most advantageous project, and assisted with negotiating a development agreement with the selected developer.



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B.1.3 – Solid Waste Authorities Projects

Solid Waste Management Plan Update / 10 Year Energy Recovery Facility Operations and Capital Plan

(Wasatch Integrated Waste Management District, Utah)

GBB was selected to prepare an Update to the Solid Waste Management Plan for Davis and Morgan Counties, Utah, which are within the Wasatch Integrated Waste Management District. This substantial update to the original Plan of 1993 included solid waste projections, a review and assessment of the existing solid waste management system and its costs, an assessment of public information tools and programs, an evaluation of options to increase waste reduction and recycling and to apply best management practices that have been successful in other communities, and a recommended implementation program and schedule. The plan update process was guided by an advisory group of the District Board.

10 Year Energy Recovery Facility Operations and Capital Plan

GBB was selected to perform an analysis of (1) the Davis Energy Recovery Facility (DERF) maintenance and capital investment plan to evaluate facility reliability and availability improvements, and (2) the impact of the planned improvements on the District's economics as they relate to the extension of the District's current contract with Hill Air Force Base (HAFB) for the sale of steam generated at the DERF. Extending the contract with HAFB for ten years helped to ensure that any maintenance to, and improvements of DERF operations will be supported by a consistent and suitable price for steam.

Multiple Strategic Planning Assistance Projects

(Connecticut Resources Recovery Authority (CRRA))

Strategic Planning Assistance

The Connecticut Resources Recovery Authority (CRRA), in the process of responding to a variety of business challenges, including providing information and a transition plan in response to recent Connecticut state legislation, selected GBB to assist in developing information, drafting documents, and participating in meetings on behalf of CRRA during this process. Related tasks included:

Economic Market Assessment and Support

This task consisted in evaluating the solid waste disposal market's potential response to the loss of publicly owned resource recovery facilities (RRF). GBB identified publicly owned RRFs in the Northeastern/Mid-Atlantic region (Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Maryland and Virginia); evaluated the market conditions supporting the RRFs, e.g. flow control, market participation;



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evaluated the waste disposal market condition in the region around the RRFs; provided an assessment of market competitiveness in the regions around the RRFs with and without landfill availability; and produced an economic market assessment report, in conjunction with others, that addresses the impacts of eliminating publicly owned RRFs.

Out of State Disposal Market Assessment

GBB identified candidate landfills and WTE facilities that could accept up to 500,000 TPY of solid waste from CRRA. Estimated disposal costs were determined for each facility for an expected range of waste tonnage disposed. Transportation costs were estimated between CRRA's facilities and the disposal locations. The disposal facility data was tabulated and included the name of the facility, facility location, facility owner, facility operator, type of waste accepted, current capacity, anticipated expansions, available capacity, availability of rail access, closure date (if any), tipping fee range and other information as appropriate. GBB developed a regional map showing the disposal locations, and a report of findings for CRRA review.

Analysis of MSW Supply in Central Connecticut Region for Hartford RRF

As part of the Transition Plan required by recent legislation, CRRA wished to evaluate the supply of municipal solid waste (MSW) in the Central Connecticut Region that would supply the Hartford Resource Recovery Facility (RRF). GBB consulted with CRRA to define the Central Connecticut Region to be used in the evaluation. A spreadsheet based model was then developed in the model. GBB reviewed the Connecticut Governor's Recycling Task Force Report, CY2012, and assessed the timeframe and likelihood of the proposed recommendations.

Technology Assessment

GBB was tasked to:

- Review the CRRA Report entitled New and Emerging Technologies for MSW Solid Waste Disposal dated May 2010, the CRRA Report dated July 2012 related to an Organic Materials Processing Facility, and the State of Connecticut Solid Waste Plan dated December 2006 as it relates to new and emerging technologies.
- Identify and describe the key technologies that are capable of being considered as cost-effective alternatives to traditional waste-to-energy (WTE) for management of up to 720,000 tons per year of MSW. Also included was a review of anaerobic digestion technologies for processing commercial source separated organic materials, such as food waste.
- Estimate on a conceptual, planning level basis the cost (capital cost, operating costs, tip fees) for an alternative facility(ies), including the need for economic subsidies for same.
- Prepare an estimated schedule to bring such alternative facility(ies) on line.



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- Discuss roles for CRRA facility(ies) implementation.
- Discuss role that CRRA could play as a resource center to assist other public entities in Connecticut review the feasibility of and develop new and emerging technologies.
- Identify any possible legislative actions to support development of an alternative facility(ies).
- Prepare a report of findings.

Prepare Comments and Advise CRRA Regarding State of Connecticut Draft Solid Waste Management Plan

GBB reviewed the preliminary draft and subsequent draft(s) of the State of Connecticut's 2006 Solid Waste Management Plan (Plan) prepared by the Connecticut Department of Environmental Protection (DEP) and provided support to CRRA in submitting feedback to the DEP and supporting CRRA in meetings with the DEP and Stakeholders involved in commenting on the Plan.

Compendium on Flow Control and Franchising

For CRRA, GBB conducted research and prepared a compendium of articles, court decisions, papers and other selected documents on the subjects of flow control and franchising to assist CRRA in understanding recent developments and court decisions on these subjects, as well as initiatives undertaken by various communities and authorities to address their needs in the areas of flow control and collection franchising.

Compilation of Selected Readings Concerning Thermal Conversion Technology, Environmental Effects of Waste-to-Energy Versus Landfilling, Control of NO_x and Secondary Emissions in Waste-to-Energy Facilities, and Advancing MSW Diversion Levels to 40-50%

For CRRA, GBB prepared a compilation of selected articles, papers, and other documents on the subjects of Thermal Conversion Technologies, Environmental Effects of Waste-to- Energy Versus Landfilling, Control of NO_x and Secondary Emissions in Waste-to-Energy Facilities, and Advancing MSW Diversion Levels. With the advancements in technology and availability of operations data from selected commercialized facilities and new programs in the U.S. and several other counties, these documents can assist CRRA in understanding the new and emerging technologies, techniques, and program options that may have application for CRRA and the local governments it serves.

Review/Report of Other Selected Quasi-Public Solid Waste Management Authorities

GBB researched and prepared a summary report of resource recovery development organizations consisting of 12 selected state, county, and quasi-public organizations that serve as solid waste-resource recovery and recycling development agencies. The selected organizations operate or contract for the operation of various facilities, including waste-to-energy facilities, landfills, materials recovery facilities, and/or facilities that process special wastes such as C&D waste, yard waste, tires, HHW, e-waste, bulky



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waste or certain other special wastes. GBB prepared a summary overview that included the basic features, organizational structure, revenue streams and sources, and basic business model of each organization.

Additionally, GBB researched states to identify (1) those that have a defined policy regarding “waste-to-energy” at the state level and (2) those where only landfilling of municipal solid waste is taking place. GBB also conducted research of the New England and Mid-Atlantic States to determine which, if any, had a policy at the state level regarding solid waste exportation. The states of Pennsylvania, Virginia, Ohio, and Kentucky were also researched to determine if they had a policy at the state level regarding waste importation.

Opinion Paper on Ownership Issues Related to Solid Waste Disposal Capacity

GBB prepared an opinion paper that described to the State of Connecticut General Assembly and municipalities in the State the challenges confronted with the expiration of service agreements CRRA and other regional resources recovery authorities have with member municipalities, the corresponding service agreements with the owner/operators of the facilities serving the member municipalities, and the potential shift to private ownership of at least four of the six regional waste-to-energy facilities.

The opinion paper presented a review of the current status of solid waste management in Connecticut, the current costs for solid waste management, and how costs and services might change given the current status. The opinion paper also reviewed the changes ahead recognizing the forthcoming goals that the State of Connecticut’s Proposed Amendment to the State Solid Waste Management Plan will require with regard to disposal capacity as well as the new diversion goals. Options to address the impending needs were outlined, and the paper encouraged the regional authorities to work together to pursue a course of action that was in their mutual interest.

Procurement Services for a Landfill Development Partner

Confronted with the inability to access and/or expand waste-to-energy facilities in Connecticut and the un-likelihood that it would be able to site and develop a new MSW landfill in the state, the CRRA initiated a procurement planning process for long-term disposal to potentially access a unique opportunity at an early stage and secure more favorable pricing and business terms rather than wait and be subject to higher market pricing.

GBB assisted with this procurement planning effort with the goals to solicit, evaluate, and select potential partner(s) with which CRRA could develop an out-of-state landfill. As a first step, GBB drafted a Request for Expressions of Interest (“RFEI”).

Strategic Planning Assistance



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GBB provided continued assistance to CRRA in strategic planning of its facilities, services and programs. GBB's services included reviewing the amended State of Connecticut Solid Waste Management Plan and providing guidance to CRRA in implementation needs and issues as they affect CRRA; reviewing legislation and suggesting possible legislative initiatives that could help CRRA and/or enhance its programs, facilities, and services; providing CRRA with strategic guidance regarding its facilities, services, and programs; and advancing CRRA's interests and strategic planning needs.

Procurement Services for the Stratford Intermediate Processing Center

The CRRA was confronted with a situation where it needed to adjust its procurement process to include the capability in the Stratford Intermediate Processing Center (IPC) to accept and process recyclable materials that are delivered in various forms including single-stream and dual stream (mixed paper and commingled containers).

GBB assisted CRRA with procurement planning to solicit, evaluate, and select potential contractors for the Stratford IPC. GBB met with CRRA staff, reviewed the draft RFP, and suggested certain revisions to the draft RFP.

Additionally, GBB assisted with the planning of the operational elements of the IPC and recyclables collection, and in conducting a collection workshop focused on single-stream recycling and the needs and issues in advancing the single-stream collection and processing approach in the Stratford IPC service area. GBB also prepared a compendium on e-waste management and drafted a suggested concept and facility cost estimate for e-waste processing.

Preliminary Feasibility Assessment for CRRA to Acquire Lease on Existing Out-of-State Landfill or Develop New Out-of-State Landfill

GBB prepared an overview of the issues and needs that would attend the acquisition or leasing of an out-of-state landfill or the development of a new, greenfield landfill out-of-state. GBB researched potential development partners that may have interest in working with CRRA to implement such a project and identified the salient needs and interests of those parties. GBB presented a preliminary cost analysis, subject to certain assumptions, to site, permit, construct, and operate a new, greenfield landfill. GBB also provided certain information of which GBB is aware relative to selected landfill acquisitions and leases in the marketplace to give CRRA insights as to the relative economics, parties involved, and other key facts regarding the transactions. GBB prepared a confidential report of its findings and analysis.

Review of Waste-By-Rail Program Feasibility Study

GBB conducted a study of waste-by-rail service contracting and other related disposal contracting issues and implications important in shaping CRRA's procurement and negotiations strategy. GBB addressed railroad-related issues and developed an integrated procurement strategy addressing the major elements



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that would be associated with CRRA's implementation of a waste-by-rail program. GBB also reviewed selected disposal sites capable of receiving waste-by-rail and presented various conditions and expected pricing that would be involved with the use of those sites.

In this study, GBB also reviewed selected elements, including:

- Railroad transportation rates;
- The use of gondola versus intermodal equipment to move the subject waste;
- Lease versus purchase of railroad freight cars and containers;
- Alternative destinations; and
- Unloading capabilities at potential destinations.

A summary report was prepared, and GBB and its subcontractor, R. L. Banks & Associates, met with CRRA to discuss the findings of the study.

Strategic Planning and Stakeholder Research

(Mojave Desert and Mountain Recycling Authority, California)

The Mojave Desert and Mountain Recycling Authority is a California Joint Powers Authority (JPA), consisting of nine communities in the state's San Bernardino County high desert and mountain region. The JPA financed and manages the operations contract for the highly automated Victor Valley Material Recovery Facility (MRF). The MRF today receives and processes an average of 130 tons per day, five days per week, of single stream paper and containers and recyclable-rich commercial waste loads. The JPA has two strategies regarding process residue:

- Reducing residue rates from existing deliveries to optimize MRF operations;
- Increasing recovery for recycling by expanding the recyclable-rich and organics-dense waste load deliveries to the MRF and/or a composting facility.

In August 2008, the JPA contracted with GBB to prepare the Victor Valley Resource Management Strategy (Resource Management Strategy). Working with RRT Design and Construction, Inc., GBB prepared a coordinated forward-looking strategy to guide the JPA's future program and facilities decisions. The Resource Management Strategy focused on the Town of Apple Valley and the City of Victorville, the two largest JPA member communities with respective populations of 70,000 and 107,000, which have a combined total of more than 130,000 tons per year of material entering the JPA's recycling system and the Victorville Landfill. The Resource Management Strategy is underpinned by a visual characterization of nearly 300 waste loads delivered to the Victorville Landfill in the fall of 2008.



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The waste characterization indicated that as much as 80% of loads of residential and commercial waste landfilled could be processed for recycling and composting in a combination of manual and automated sorting facility. Loads sufficiently dry and containing primarily non-bulky materials were judged eligible for processing and recovery.

The Resource Management Strategy provided a conceptual design and cost that identified projected capital and operations costs that would be incurred to construct a new pre-processing system to separate out materials for recycling and composting from eligible loads. Based on the waste composition analysis, residue from a proposed system was estimated. This residue would be rich in combustible materials, sufficient to send to an energy recovery market.

Furthermore, the Resource Management Strategy sets the stage for JPA programs to address the December 2008 California Scoping Plan's mandates and priorities. The Scoping Plan, a roadmap for statewide greenhouse gas emission reduction efforts, specifically calls out mandatory commercial recycling, expanded organics composting, and inclusion of anaerobic digestion as renewable energy.

The Resource Management Strategy assessed three cement manufacturers, located in the high desert region, for their potential to replace a portion of their coal fuel with residue from the MRF and potentially from other waste quantities generated in the region. Cement kilns are large consumers of fossil fuels, operate on a continuous basis, and collectively are California's largest source of greenhouse gas emissions. Further processing requirements were also identified for size reduction and screening to remove non-combustible materials and produce a feasible refuse-derived fuel (RDF). A conceptual design system to process residue and supply RDF to a cement kiln was developed, as were estimated capital and operating costs to implement the RDF production system. The Resource Management Strategy, by including separate collection of yard waste, food waste, and soiled paper, as well as the alternative to collect these materials in waste loads and recover them in a pre-processing system, successfully addressed the California Public Resources Code requirement that "all feasible source reduction, recycling, and composting measures" are implemented prior to approving any new "transformation" facility. This planning effort also provided a basis for greenhouse gas reduction analysis consistent with statewide initiatives to reduce landfill disposal.

The JPA is implementing improvements to its MRF recommended by the Strategy, for reducing MRF residue. Also, the JPA is monitoring two food waste composting pilot projects being conducted at two regional facilities, while promoting the use of the commercial scale composting facility to commercial landscapers and other generators of commercial yard waste.



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Stakeholder research was an integral part of this project. In order to obtain an in-depth understanding of generators' current perceptions and attitudes about the current collection system as well as recycling and waste reduction, GBB conducted the following research designed to obtain input from key stakeholders: residents, business leaders, elected officials, environmental leaders, school representatives, and waste industry officials:

- A focus group with 11 residents of Apple Valley and Victorville, October 21, 2008
- A focus group with solid waste managers from seven Apple Valley and Victorville businesses and organizations, October 22, 2008
- Stakeholder interviews with 11 opinion leaders from Apple Valley and Victorville, including two city council members, a business leader, a property manager for a large development, two chamber of commerce directors, one environmental leader, three waste industry officials and one school representative, October 20-23, 2008
- Review of public education and outreach materials, including websites, from Apple Valley, Victorville and the JPA
- Interviews with solid waste managers in both jurisdictions

GBB analyzed the data from the research and provided a set of recommendations for the JPR. The research pointed to the need for a “back to basics” recycling campaign to clear up confusion about recycling guidelines, the need for better inter-jurisdictional cooperation on recycling, opportunities to use technology to promote recycling, and improvements to public education materials.

Solid Waste Management Planning and Implementation

(Metro Waste Authority, Des Moines, Iowa)

GBB prepared a Comprehensive Solid Waste Management Plan for the Authority. It was required of the Comprehensive Plan to develop methods to recycle 25 percent of the Des Moines Metropolitan Area waste stream by 1994 and 50 percent of the waste stream by the year 2000. In addition, the Comprehensive Plan developed methods for volume reduction at the source; waste-to-energy facilities; co-disposal options combining management of municipal solid waste with municipal sewage sludge (co-landfilling, co-incineration, and co-composting); composting programs for yard wastes and mixed municipal solid waste; and programs for specific waste streams including tires, white goods, infectious wastes, household hazardous waste, and construction/demolition wastes.

GBB, as the prime contractor, conducted an extensive analysis of the existing solid waste disposal system for the Authority as part of a Phase I study effort. This analysis included the following activities: performing an extensive waste composition program including quarterly sampling of the waste received



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at the Metro East Sanitary Landfill; developing an alternate final configuration of the landfill; and calculating landfill life expectancy. In addition, GBB aided in development of post-closure care requirements and funding; composed a detailed analysis of required annual operating costs; produced an environmental, economic, operational, and social analysis of the Metro Park East Sanitary Landfill; wrote an analysis of potential groundwater, surface water, and soil contamination surrounding the landfill; and conducted sensitivity analyses regarding different potential impacts of regulations and post-closure care requirements.

GBB assisted the Authority in the implementation of their recycling and yard waste composting programs. GBB prepared procurement specifications and documents for home storage containers and private curbside collection contracts for over 10,000 homes in seven communities; drop-off facilities in areas without curbside collection; and a materials processing facility. GBB also assisted with contract negotiations with the selected vendors and with monitoring the project activity. GBB also prepared the design and permitting documentation for a 20-acre yard waste processing facility. Project activity included design, equipment procurement, permitting, responding to site opposition, and preparation of a detailed Operating Plan.

Development of Local Solid Waste Management Plan

(Cornerstone Environmental Group, LLC for Rockland County Solid Waste Management Authority, New York)

As a sub to Cornerstone Environmental Group, GBB assisted in the development of a Local Solid Waste Management Plan for Rockland County Solid Waste Management Authority, New York. Specifically, GBB contributions to the Plan included: development of waste generation projections, using current data provided from Rockland County Solid Waste Management Authority; drafting a report section reviewing Alternative Technologies available for waste disposal, reduction in landfilling, increased recycling, and/or increased alternative energy production; an overview of flow control and other related local, state, and federal regulations affecting Rockland County solid waste; and a discussion of composting to manage food waste and other organic waste streams locally, as part of a possible regional solution in the future.

Strategic Planning for Solid Waste and Recycling Services

(Rivanna Solid Waste Authority, Charlottesville, Virginia Region)

The Rivanna Solid Waste Authority (RSWA) selected GBB and Draper Aden Associates to assist them in developing a strategic plan for future solid waste services. The RSWA is made up of the City of Charlottesville and the County of Albemarle. The scope of work consists of a critical review of facilities and services, including data request and review, followed by kick-off meetings to review the project, scheduling, and to strategically brainstorm. GBB made site visits to each of RSWA's facilities to review



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operations and productivity and provide a technical memorandum on each of these operations to include overview, observations, best practices, and recommended changes.

Stakeholder research was an integral part of this project. GBB conducted in-depth interviews with 30 key stakeholders including elected representatives of the City of Charlottesville and the County of Albemarle, City and County planning agencies, nonprofit and business leaders in order to obtain the projections of growth in the jurisdictions and opinions about the current recycling and solid waste collection system. In addition, GBB developed an online survey, open to citizens and posted on the RSWA website, which asked for opinions about the current solid waste and recycling collection system. More than 400 residents responded. GBB analyzed the data from the online survey and stakeholder interviews. This information was combined with data from the site visits and operational review.

GBB created a GIS map to show the findings. The map showed locations of existing and potential solid waste facilities, which were used to evaluate the logistical realities for different geographic areas of the RSWA jurisdiction. GBB translated transportation and other logistical parameters into specific traffic and cost impacts as well as more general sustainability considerations. Additionally, GBB compared solid waste programs in the County and City to other communities similar in size and nature, and prepared materials that documented solid waste practices and alternatives. GBB presented all of its findings at two public meetings. At one of the meetings, GBB organized small group discussions in order to obtain further input from residents.

GBB developed four alternative scenarios under which RSWA could manage the solid waste of the area. The options evaluated in the scenarios included expanded curbside recycling, a new transfer station, a materials recovery facility, C&D recycling and a refuse-derived fuel facility that would produce fuel pellets. The cost of each option was determined and then evaluated using a full-cost accounting model. The scenarios were presented in a public information workshop.

Solid Waste System Strategic Planning

(Montgomery-Otsego-Schoharie Solid Waste Management Authority (MOSA), New York)

GBB conducted Phase 1, Strategic Planning Services, identifying possible alternatives that MOSA could implement to reduce costs, improve efficiency and services, and bring cooperation and reestablish a unified program with all three counties working together in the interests of a regional solid waste management system that was intended when MOSA was formed. The Phase 1 Services included evaluation of MOSA's facilities and services; several meetings with MOSA Board members, elected officials in the three counties, businesses haulers, and other stakeholders; and identification of issues, needs, ideas, and potential options and solutions to address the multiple challenges confronted by MOSA. A Phase 1 report and briefing was delivered to MOSA and the member counties.



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Cost Assessment of Regional Landfill and Regional Waste-to-Energy Facility with Supplementary Research of Gasification Technology

In follow-up to its Phase 1 report, GBB performed Phase 2 services for MOSA. These services included estimating the costs of developing a regional landfill and a regional waste-to-energy facility and exploring the feasibility of intermodal rail transport of waste. As part of the assessment, GBB prepared an overview of the status of gasification of municipal solid waste as a potential alternative thermal processing option and updated MOSA on the status and research associated with gasification technology previously evaluated by SUNY Cobleskill for the U.S. Army.

Regional Recycling Feasibility Study

(Southeastern Public Service Authority of Virginia)

The Southeastern Public Service Authority (SPSA) is responsible for waste disposal activities for the cities of Virginia Beach, Norfolk, Portsmouth, Chesapeake, Suffolk, and Franklin, and for the Counties of South Hampton and Isle of Wight. More than 900,000 people are serviced by the Authority's projects, which include a regional landfill, an RDF facility, three transfer stations, and ferrous upgrading and tire shredding operations at the landfill. GBB was retained to conduct a recycling feasibility study to determine how increased recycling activities could decrease the quantities requiring disposal and, thereby, extend the capacity of their existing system.

GBB conducted a waste stream composition study using local waste generation and composition data and extrapolations from applicable national databases to determine quantities and quality of recoverable materials in the waste stream. Existing recycling programs were identified and surveyed to determine the extent of diversion being achieved by those activities.

Recycling program alternatives were reviewed, including drop-off and curbside programs for residential materials, and collection approaches for commercial, institutional, and industrial programs. Capital and operating costs for facilities and equipment for a 3-year phase-in were detailed. GBB analyzed current tire and white goods disposal practices, and reviewed alternatives. Additionally, GBB developed a plan for public education activities to promote the region's recycling activities.



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B.1.4 – Long Term Strategic Solid Waste Management Planning

Receivership of the Guam Solid Waste Management Division

(United States District Court of Guam)

The Chief Judge of the United States District Court of Guam issued a court order appointing Gershman, Brickner & Bratton, Inc. (GBB) as Receiver to achieve what the Government of Guam was unsuccessful in reaching during the previous 22 years – compliance with the Clean Water Act as set forth in a Consent Decree. What the Judge tasked GBB with, and what the Consent Decree requires, is a complete 180-degree turnaround of a completely dysfunctional solid waste management system while closing a dump that has been open for nearly 70 years.



The Consent Decree, signed between the Government of Guam and the United States Environmental Protection Agency (U.S. EPA) on February 11, 2004, ordered the Government of Guam to close the Ordot Dump, cease all discharges into the Lonfit River, open a new municipal solid waste landfill facility, and develop and implement recycling and hazardous waste strategies to reduce the volume of materials going into the landfill.

To develop the turnaround plan, GBB assembled a multi-disciplinary team of solid waste, procurement, landfill engineering, financial, and communication experts who, in April 2008, presented the Court with a roadmap for accomplishing the Consent Decree projects and reforming Guam's solid waste management system.



GBB, working with public works, financial departments, the military, private waste haulers, and other stakeholders in Guam, has opened a new landfill and is on a path to comply with all of the terms of the Consent Decree in the most cost-effective and expeditious manner possible. This has been accomplished under the guidance of the Court and in consultation with the U.S. EPA and the Guam Environmental Protection Agency (EPA).

Key Accomplishments:

Among the accomplishments achieved thus far:

Financing, Capital Funding, and Communication Services

- Provided analysis and recommendations for financing the Consent Decree projects, working with the Government of Guam to successfully issue long-term bonds



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- Established, with the approval of the Court, a financial management strategy for the receivership that facilitated the receivership and ensured the money is used only for solid waste purposes
- Established and engaged in regular communications with the media and public via the website and ongoing media correspondence.

Operational Reforms

- Improved trash collection services, dramatically reducing customer complaints
- Repaired vehicles and purchased new equipment to support operational needs
- Reduced the solid waste workforce by more than 35% as operations were reorganized and streamlined for more efficient organization and delivery of services
- Significant cost savings with dramatic reductions in cost of leased equipment from \$11,000 per day to just \$484 per day. Improved working conditions for employees including functional equipment, working bathroom/shower facilities, clean kitchen facilities, and personal safety equipment and uniforms
- Implemented a ban on vegetative waste, cardboard, and wood entering the Ordot Dump, which increased recycling and extended the capacity of the dump
- Added recycling drop boxes at the dump and three transfer station/convenience centers
- Implemented cart-based residential waste collection services.

Consent Decree Infrastructure Development

- Prepared cost estimates for engineering, permitting, construction management, and construction for all Consent Decree projects.

New Landfill

- Completed the hydrogeological investigation for the new landfill site
- Completed redesign of the first phase of landfill development – 22 acres of lined landfill in two cells, with all ancillary systems for a greenfield landfill site
- Completed design of a new 3.5 mile two-lane secondary island road. This serves as a service access road to the landfill and can support semi-trailer truck transport that can weigh 43 tons when fully loaded
- Completed design and construction of a 5.5 mile gravity/force main sewer line with 4 pump stations that linked the landfill to a publicly owned wastewater treatment plant to handle proper disposal of leachate
- Managed rezoning of land from Agriculture to Landfill, as appropriate





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- Managed the performance of a leachate treatability study with bench scale studies to confirm treatability at plant
- Executed permitting for all local and federal permits needed for construction and operations
- Developed and initiated Detection Monitoring Program for the landfill operations with report results sent semi-annually to local regulatory agencies
- Developed and executed the wastewater treatment monitoring plan to evaluate the impact of the leachate on wastewater treatment plant performance
- Developed and executed environmental monitoring plan for landfill operations including stormwater, gas, and groundwater
- Responsible for, and performed, construction management services throughout project

Dump Closure

- Developed and procured engineering and environmental services for the closure investigation and design
- Conducted a comprehensive environmental investigation to establish the baseline environmental conditions at the dump to support the closure design
- Design included leachate and landfill gas generation analysis to support decisions on treatment and potential for energy conversion
- Developed closure design alternatives and recommended an alternative to regulatory agencies
- Developed all permitting documents and achieved approval for construction
- Performed all construction management oversight and execution of construction contracts
- Officially concluded the Environmental Closure of the Dump, on March 28, 2016, to protect the surrounding environment



Residential Transfer Station Design

- Developed renovation plans for three existing transfer stations and one new transfer station that also housed a full service Household Hazardous Waste Facility
- Conducted environmental assessments to establish existing environmental conditions





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and performed supplemental investigations that involved sampling plans for surface and subsurface soil, as needed

- Oversaw all designs and provided quality control and assurance for each aspect of the design efforts
 - Initiated and completed all permitting for construction and operations permits
 - Responsible for, and performed, construction management services for all sites
- Household Hazardous Waste (HHW) facility and Harmon Residential Transfer Station

- Conducted procurement for construction of the facility
- Responsible for, and performed, construction management services throughout project
- The HHW facility, an essential requirement of the Consent Decree, officially opened January 23, 2015

GBB staff placed priority on taking immediate steps to improve customer service and financial accountability, reduce costs through operational efficiencies, preserve disposal space at the existing dump until the new landfill could be built, and address long-term issues of financing Consent Decree projects – all while procuring and managing the design, permitting, and construction of the new landfill. Virtually no aspect of solid waste management remained untouched during the first year.



Key Milestones:

Closing of Ordot Dump and Opening of Layon Landfill

On August 31, 2011 and September 1, 2011, two events were held to commemorate completion of key milestones in bringing Guam's solid waste system into compliance with the 2004 Consent Decree for violation of the Clean Water Act: the official opening of the Layon Landfill and the closing of Ordot Dump to waste disposal operations.

The Layon Landfill is a high-tech, environmentally sound and highly controlled landfill for non-hazardous municipal solid waste. It was built with an engineered liner and a leachate collection and removal system that protects human health and the environment. With a capacity in excess of 15.8 million cubic yards, the Layon Landfill will service the island of Guam for more than 40 years.



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Environmental Closure of the Ordot Dump

On March 26, 2016, the District Court of Guam held a Hearing that officially concluded the Environmental Closure of the Ordot Dump. The Dump was in operation, beginning in the 1940s until August 31, 2011, polluting the Lonfit River in violation of the Clean Water Act. Working in conjunction with the U.S. EPA, the Guam EPA, the Ordot Mayor's Office, and the people who live in the immediate vicinity of the Ordot Dump, the Receiver oversaw the design of an approved plan that met all of the legal and environmental requirements of the Federal and Territorial Governments.



The plan provides for the legally required 30-year post-closure care of the facility that includes monitoring groundwater, leachate collection and control, methane gas collection and control, and financial assurance that the money will be available to carry out these activities. Leachate, which had been leaking out of the Ordot Dump and polluting the Lonfit River, is now being captured and diverted to a waste water treatment facility for proper treatment. The environmental closure of the Ordot Dump also captures harmful methane gas, a greenhouse gas that contributes to climate change.

Procurements

GBB, in its capacity as Receiver for the Solid Waste Management Division (now the Guam Solid Waste Authority), has presided over several procurements including, but not limited to:

- Request for bids for construction of the Landfill Operations Road and Mass Grading for Cells 1 and 2. Three bids were received and after careful review, the Receiver awarded a contract
- Invitation for Bids (IFB) to procure carts with riveted RFID tags attached and cart lifters to attach to existing trucks, and have these items delivered to a staging area on the Island of Guam. GBB was part of the team that subsequently evaluated the bids received



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- Request for proposals (RFP) for technical assistance services for the initiation of groundwater quality monitoring activities for the Layon Municipal Solid Waste Landfill
- IFB for the construction of Layon Municipal Sanitary Landfill, Entrance Area Facilities, and Cells 1 and 2. Three firms submitted bids and a contract was awarded after careful evaluation of the Receiver
- RFP for Construction Management Services for Layon Landfill Systems, Entrance Facilities, and Access Road and Utilities
- RFP for a firm to prepare final closure and post-closure plans of the Ordot Dump in compliance with the Consent Decree and RCRA Subtitle D, 40 CFR Part 258. The scope of work includes all of the site investigations and studies needed to support the plans and survey work needed to sort out numerous land ownership issues in the area. Five firms submitted proposals and the Receiver awarded a contract after a thorough evaluation process
- RFP from qualified Operators for services to operate the new Layon Municipal Solid Waste Landfill in compliance with the Consent Decree for seven years, with an option for two five-year extensions. The contract was awarded after a thorough evaluation process managed by GBB
- Request for Expressions of Interest to provide a Municipal Solid Waste (MSW) Transfer Station and transportation of MSW from the Transfer Station to the Layon Landfill
- RFP for the services of a contractor with demonstrated knowledge and experience in Household Hazardous Waste Facility Operation management





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- RFP for construction management services for the construction of Ordot Dump closure systems, wetland restoration, Dero Road improvements and utilities for the Ordot Dump Closure Construction
- IFB for the construction of the environmental closure of the Ordot Dump & Dero Road Sewer Improvements
- IFB for processing of residential recyclables
- IFB for the construction of Harmon Residential Transfer Station
- IFB for roll-off containers and stationary compactors

Community Meetings Concerning Implementation of Cart-based Collection System

Three community meetings/small group discussions were held with Guam residents in the south, central, and northern village districts. The meetings were intentionally small, ranging in size from six to 11 participants, in order to provide opportunities for candid, in-depth discussion of solid waste issues and the trash cart rollout plans. A total of 27 residents participated, representing the villages of Umatac, Agat, Merizo, Tamuning-Tumon-Harmon, Chalan Pago-Ordot, Mangilao, Barrigada, Piti, and Hagatna Heights. A series of stakeholder discussions was also held to obtain input from a select number of mayors, environmentalists, school officials, business representatives and media regarding the Receiver's plans for implementing a new, cart-based collection system for customers of the Guam Solid Waste Authority (GSWA).

Public Education for Cart Rollout Plans

As part of the successful rollout of a new cart-based residential trash collection system, GBB developed a public information strategy to maximize residents' participation and ensure a successful rollout. Tools developed included website content, news releases, detailed registration information, brochures, and cart hangers. The response from residential customers to the new trash cart system was very positive. The initial supply of 7,000 carts was exhausted before a second shipment arrived. Demand for the new cart was so strong that a third shipment was required in order to complete the delivery of carts to new customers. Overall, 19,090 carts were delivered, an increase of 6,501, representing a 52 percent increase in total residential customers.





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Curbside Recycling



GBB originally implemented a curbside recycling pilot program for 1,000 customer households with cart-based collection of fiber, plastics (PET and HDPE), and aluminum and bi-metal cans. The objective of the pilot project was to determine the feasibility of implementing curbside recycling collection services throughout Guam for all GSWA customers.

After a successful pilot project, an island-wide curbside recycling program was implemented for collection of paper (magazines, copy paper, newspaper, cardboard, cereal boxes, and other paper), aluminum and metal cans, and plastics 1 & 2 beverage containers every other week.

For more information about the Receivership, visit: www.guamsolidwastereceiver.org and www.guamsolidwasteauthority.com.

WHAT THEY SAID:

"It was 16 years ago that the consent decree was filed by the appropriate parties. It [Ordot Dump] is finally closed and I am very, very happy."

Chief Judge Frances Tydingco-Gatewood - statement at a Hearing held March 28, 2016

"The court compliments the Receiver's continued efforts to ensure GSWA remains financially sound. The Receiver's strong fiscal management will assure successful completion of the Consent Decree projects."

Chief Judge Frances Tydingco-Gatewood - statement in a Court Order dated October 26, 2015

"After approximately three years and five months since its appointment, the Receiver has effectively dealt with many challenges to reach two major milestones under the Consent Decree—the closing of the Ordot Dump and the opening of the Layon Landfill. The court commends the Receiver for its efforts and the tremendous progress it has made thus far."

Chief Judge Frances Tydingco-Gatewood - statement in a Court Order dated September 2, 2011

"The federal receiver, Gershman, Brickner & Bratton Inc., has the island's thanks for fixing and improving the government's solid waste program." [...] "In short, the receiver has transformed the way the island deals with its waste."

Pacific Daily News editorial dated August 30, 2011



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“But the real reason for the recent boom in recycling has been the court-appointed federal receiver, Gershman, Brickner & Bratton Inc., which took over [Guam] solid waste operations in March 2008. It’s done more for recycling than all local elected officials in the past few decades. [...] We commend the receiver for doing what’s right, pressing forward with recycling, when our own elected officials lacked the political will to do so. And we strongly encourage residents — whether they’re included in the pilot project or not — to do what they can to recycle more.”

Pacific Daily News editorial commending the work done by GBB as Receiver for the Solid Waste Management Division of the Department of Public Works, Government of Guam, November 14, 2010

“The court finds the work performed by GBB and SWMD employees in concert with the various governmental agencies over the last two years truly impressive... What was once perceived as an insurmountable hurdle is now becoming a long awaited reality for the people of Guam.”

Chief Judge Frances Tydingco-Gatewood
statement in a Court Order dated April 9, 2010

Solid Waste Management Implementation

(San Bernardino County, California)

GBB provided consulting services to the County of San Bernardino, California for its solid waste management system. Specific assignments included assisting the County in negotiating a host community agreement with the proposed RailCycle mega-landfill and development of a strategic plan, including meetings with municipalities throughout the County. GBB also participated in a management review of the County’s Solid Waste Management Department and in negotiations for solid waste and recyclables processing and disposal facilities and services.

San Bernardino County, the largest county in the continental United States in terms of land area (20,000 square miles), has a population of 1.5 million. The County contains 24 municipalities as well as a large unincorporated area. The County system provides a network of disposal services that handles approximately 5,000 tons per day of solid waste. At the time of GBB’s assignment, the County had 17 landfills, 12 of which were scheduled to close, and four other solid waste service facilities. Since state law requires accelerated advance funding for landfill closures, forecasting the basis for future service requirements and revenue streams was an important priority. In addition, waste quantities the County received could potentially be diverted to privately owned facilities. GBB conducted detailed reviews of these issues and the management structure of the County solid waste system in order to provide recommendations to the County government on how to develop and integrate their solid waste systems and gain the long-term participation of the twenty-four municipalities and private haulers.



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Integrated Solid Waste Management Plan

(Maui County, Hawaii)

GBB was the lead of the project team that was hired to develop the Integrated Solid Waste Management Plan (ISWMP) for Maui County that is required by the State of Hawaii. The ISWMP considered the following solid waste management practices and processing methods in their order of priority: (1) source reduction; (2) recycling and bioconversion, including composting; and (3) landfilling and incineration. GBB evaluated solid waste and recycling collection, as well.

By 2000, the State had hoped to be at 50 percent diversion but, instead, had a recycling ethic that had, as yet, not rooted into the community; user fees (e.g., pay-as-you-throw) were rare; and the inherent costs of operating a recycling business on an island were high. As a consequence, local recycling markets were underdeveloped. These and other issues were taken into account in the development of the ISWMP. The Mayor appointed members to an advisory panel, the Solid Waste Resource Advisory Committee (SWRAC), and the ISWMP was built through that panel.

Prior to the first ISWMP draft, GBB led a tour for 17 people from the County on an eight-day tour of West Coast solid waste facilities. The tour group was made up of citizens from the SWRAC, members of Maui County Mayor Charmaine Tavares' administration, and staff members of the Hawai'i Department of Environmental Management.

The group landed in Portland, Oregon, and visited the Metro Regional District's facilities. It then went to nearby Marion County to tour Covanta's waste-to-energy facility and the County's ash monofill. The group then flew to San Francisco to visit the City contractor's MRF, transfer station, education room, citizens' drop-off facility, and C&D MRF. The group was fortunate to spend several hours talking with the City's staff and listening to Robert Hailey's zero waste program strategies.



Next, the group went to UC Davis to discuss alternative disposal options and then to nearby Vacaville to see San Francisco's food waste being composted. Finally, the tour ended in Monterey, CA at the Monterey Regional Waste District's facility with its Last Chance Mercantile, C&D MRF, wood grinding operation, HHW facility, and a chance to talk with the managers who operate this public facility in a business style. One week after the tour, the members of the SWRAC met with an expanded knowledge base from which to build on the solid waste management plan in development for the County of Maui.

The draft Plan was completed and made available to the public. The major recommendations of the draft Plan include:



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- Providing single-stream curbside recycling collection and weekly trash collection;
- Providing residential curbside collection of white goods, bulky waste and household hazardous waste;
- Developing MRFs to process recyclables and C&D waste;
- Implementing a landfill gas collection system and generating electricity from it;
- Increasing environmental education;
- Developing a transfer facility and convenience/recycling center;
- Consolidating certain base yards and developing a centrally located solid waste campus;
- Initiating C&D waste recycling programs; and
- Investigating technologies to convert waste to electricity.

A series of public hearings were held before the final Plan was submitted to the Hawaii Department of Health and approved.

The County of Maui Integrated Solid Waste Management Plan and briefing made to the Council members, prepared by GBB, are available on the County's website at: www.co.maui.hi.us/index.aspx?NID=881

Solid Waste Management Plan Update including Waste Sort

(City of Fayetteville, North Carolina)

GBB was selected to evaluate the effectiveness and efficiency of the City of Fayetteville solid waste management services to an estimated 61,000 single family residential households collecting garbage, yard waste, bulky items, and managing carts. Included in the project was an analysis comparing the City's waste hauling services with neighboring municipal solid waste services and regional private waste hauling services. The analysis included operational and equipment costs, services, efficiencies, and customer service such as call-backs. The Project Team used this information and comparative analysis to provide a series of recommendations concerning the direction of the City's solid waste management, outlining:

- Benefit of initiating synergistic waste disposal partnerships;
- Fiscal cost-benefit of outsourcing solid waste collection operations;
- Operational adjustments to optimize current resource utilization; and,
- Modifications to increase efficiency and cost-effectiveness of recycling and material recovery.



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A significant task of the initial part of the project was a waste characterization study performing a single-season, one-week “snapshot” study to identify both the components of the waste sent for disposal and the materials source-separated by residents for recycling.



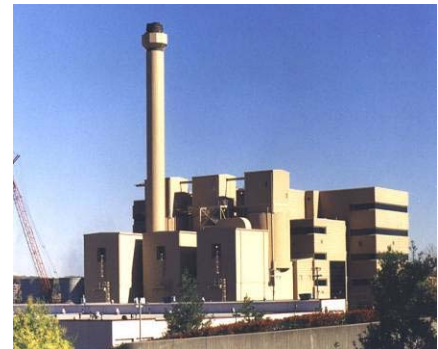
Part II of the project was a review of potential regional waste programs, including regional collection efforts and estimated costs and institutional issues related to developing a Waste-to-Energy (WTE) project with Fort Bragg United States Army installation. The GBB Project Team included in the analysis consideration of a mixed waste processing facility, which could serve to glean further recyclables from “garbage” while preparing a high heating value fuel for a WTE facility. Upon completion, the comparative analysis and series of recommendations from the project provided the City’s Public Works Commission with the requisite background, research and technical understanding to make informed planning decisions regarding future solid waste programs, partnerships and operations.

Strategic Review / Solid Waste Management Plans

(City of Alexandria/Arlington County, Virginia)

Strategic Review and Directional Analysis

Working through the law firm of Verner, Lipfert, Bernhard, McPherson & Hand, Washington, D.C., initially, and then directly for the Solid Waste Disposal Trust Fund, GBB provided an extensive analysis of the current and future costs to own and operate the Jurisdictions’ 1,000 TPD waste-to-energy plant, the quantity of waste that could be expected to “leak” from the Jurisdictions’ system, the competing facilities and their costs, and alternatives to control the waste and keep it in the system, including financial incentives to waste haulers, policy changes, negotiations with other sources of waste supply, and other means. In addition, GBB was requested to evaluate alternative revenue sources, such as direct generator charges and special assessments to fund project revenue shortfalls, and to evaluate closure of the waste-to-energy facility and contracting for transfer and disposal service, and the risks, costs, and needs associated with that action. Based on GBB’s strategic analysis and direction to the Jurisdictions, GBB was retained to provide continued assistance in negotiating new, medium-term contracts with selected major waste haulers. As a result, most of the waste that was starting to leave the facility for cheaper, competing alternatives has been retained. Other recommendations made by GBB were implemented to bring financial stability and a predictable revenue stream to the Jurisdictions’ system anchored by the waste-to-energy facility. GBB advised the Trustees on strategy and business issues.





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Solid Waste Management Plans

The Alexandria/Arlington Waste Disposal Trust Fund Trustees engaged GBB to develop the core documents of the jurisdictions' individual comprehensive 20-year solid waste management plans for both the City of Alexandria and the County of Arlington. Every ten years, the Virginia Department of Environmental Quality (VA DEQ) requires local governments in Virginia to develop a comprehensive and integrated solid waste management plan that considers and addresses disposal and disposal options, tonnage projections, source reduction, recycling, landfilling, WTE and incineration options for the next 20 years. GBB did background research and data collection to document all waste and recycling point sources and facilities, and to project the waste and recycling quantities. In addition, GBB has initiated documentation of the policy issues that the administration of each jurisdiction will need to address. This major undertaking provided both the County and the City with a sound basis for projecting and managing solid waste disposal needs for the next 20 years.

B.1.5 – Collection

Assistance in Re-Routing Residential Trash Collection System

(Northeast Maryland Disposal Authority – City of Baltimore, Maryland)



GBB was selected by the Northeast Maryland Disposal Authority (NMWDA) to provide assistance in re-routing the City of Baltimore (City) residential trash collection system. For this effort, GBB teamed with C2logix with whom GBB has a business arrangement for the FleetRoute™ routing software. Based on discussions with NMWDA and the City Department of Public Works, the Trash Collection Routing was conducted as a Service Bureau project by the GBB Project Team, versus the City buying a license and then City staff being trained to conduct the routing, and provided the City with optimized routes to implement. The City, with an estimated population of 630,000 and 200,000 households serviced by Department of Public Works trucks and crews, collected refuse twice per week from each residence with approximately 63 trucks operating six days per week. With an initial start point of 214 routes operated by DPW, the initial re-routing scenarios evaluated residential curbside garbage collection operating four or five days per week with twice-per-week waste collection with the set-out locations, including both curb and alley depending upon neighborhood.



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The Service Bureau project included refining the geocoding of the City's customers on the GIS maps and geocoding and identification of customers serviced in alleys. In addition, the street centerline data was expanded to add alleys and travel attributes (such as speeds, one-ways, overpasses / underpasses, etc.) that was not included in the City GIS baseline. City historical service data was used for set-out weights. The GBB Project Team also conducted field observations to update the stop time information.



The alternative conceptual route scenarios were provided to the NMWDA and the City, and included both weekly and twice weekly refuse collection. The weekly collection also included recycling collection, referred to as One Plus One, by the City. Scenarios included both five-day work weeks and four-day work weeks. The analysis indicated that the change in the collection system could save the City about \$6 million per year. The City Council approved the change, selected the One Plus One scenario, and the City began the new collection program on July 13th. The new program provides one trash collection and one recycling collection each week for the single family residences in Baltimore. Collections are made Tuesday through Thursday. The GBB Project Team developed the routes, providing route boundary overview maps, customer sequence lists, travel path maps and travel direction reports to the City and NMWDA. These were used in the roll-out of the new One Plus One collection program.

Waste and Recyclables Collection Program Review / Collection/Disposal Review and Yard Waste/Organics Feasibility Analysis

(City of Fort Wayne, Indiana)

Waste and Recyclables Collection Program Review and Procurement

GBB was selected by the City of Fort Wayne, IN, to review garbage and recycling collection programs; provide recommendations/direction for future programs; and oversee/support the procurement and negotiations process with vendors. The City ultimately received bids from five companies, and the Fort Wayne City Council approved four contracts with National Serv-All to collect and dispose of the City's trash and collect and process recyclable materials for at least seven years.

The new collection contract, which includes providing a single container for residents to discard glass, metal, and paper recyclables, has a revenue sharing component that provides the City with half the net proceeds from the sale of its recyclable materials. It was originally expected to bring in approximately \$130,000 a year to the City, compared to nothing in past collection contracts. Based on the successful



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results nine months within the first year of the contract, it was projected to generate \$500,000 for the City in 2011.

In light of this success, the Indiana Association of Cities and Towns (IACT) presented the City two prestigious awards at its annual conference. IACT officials recognized Fort Wayne with the Community Achievement Award for its recycling program and efficiencies that saved money, generated revenues, doubled community participation and reduced residential garbage fees by more than a million dollars. It also presented the City with the prominent Green Community Award, in great part due to the successful recycling program.



City of Fort Wayne representatives Kira Blacketer, Program Manager of the Solid Waste Department, and Matt Gratz, Solid Waste Manager, receiving the 2012 Gold Excellence Award for Collection Systems from SWANA

In June 2012, the Solid Waste Association of North America (SWANA) announced the winners of its 2012 Excellence Awards Program, which recognizes outstanding solid waste programs and facilities from some of the most innovative and dynamic organizations throughout North America. In the Collection Systems category, the City of Fort Wayne finished first with the Gold Award for the implementation of the new collection program.

Collection/Disposal Review and Yard Waste/Organics Feasibility Analysis

Having assisted, 6 years earlier, the City of Fort Wayne, IN with four procurements that provide the current solid waste collection/disposal services and recyclables collection as well as processing/marketing services, GBB was tasked to review current garbage and recycling collection programs and the feasibility of adding yard waste and organics. The assignment included:

- reviewing current garbage and recycling collection programs and the feasibility of adding yard waste and organics,
- benchmarking program costs against comparable municipalities, and
- providing recommendations and alternatives for the future.

The GBB Project Team also participated in/facilitated one an “in-person” Solid Waste Contract Committee (SWCC) meeting.



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Route Optimization / Collection Modeling

(City of Spokane, Washington)

The City of Spokane, WA, selected GBB, with subcontractor C2Logix, to provide route optimization/route modeling for the collection of materials from the City's residential accounts. As part of the assignment, the GBB Project Team used the Resource Estimator feature of the FleetRoute™ route optimization software to evaluate and compare 3 collection scenarios.

As a FleetRoute™ Service Bureau, the GBB Project Team then developed and implemented optimized and balanced routes that:

- Enabled an equitable workload for route drivers;
- Improved customer service and production efficiencies;
- Provided maps and geocoded data to provide future Global Positioning System (GPS) / Automatic Vehicle Location (AVL) support for the new routes; and
- Evaluated the number of customers and routes that would require a service day change and modeled alternative service delivery (i.e. every other week collection, four day a week collection, etc.)

Waste Collection Services Costing

(City of Fayetteville, North Carolina)

The City of Fayetteville was approached by Fort Bragg to submit a proposal to provide solid waste and certain recyclables collection services to the residential area and commercial facilities on, or pertaining to, Fort Bragg personnel. In addition to the basic collection services, the City would be responsible for providing both the disposal of the collected waste, and contracting for the processing/marketing of any recyclables collected as part of these Fort Bragg services.

The City tasked GBB with developing a cost basis for the City-services proposal. As part of the assignment, the GBB Project Team reviewed relevant documents; developed a detailed plan for the cost proposal preparation; prepared a cost-of-services proposal with assumptions and supportive costs; and developed a rate and pricing model.



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Evaluation of Collection Services and Automation

(City of Midland, Michigan)

GBB was selected to evaluate, and providing recommendations on, how to transition to automated collection for refuse and yard waste using front-load packers. The project included route optimization evaluation for current collection services and for the new collection vehicles.

Solid Waste Collection Franchise Procurement

(Madera County, California)

Residential solid waste collection services in the unincorporated area of Madera County are not mandatory and are divided into two service areas: the area below 1000' elevation, and the area above 1000' elevation, referred to as the Mountain Franchise. GBB was selected by the County to assist with the preparation, facilitation and negotiations for the solid waste collections services in the Mountain Franchise area which was set to expire soon.

The County's stated goals for these services were to increase services where feasible, to comply with all State mandates (especially AB 341), to maximize revenues to the County, and to minimize the service charges to the customer. The scope of the assignment included:

- Collecting and reviewing data and documents
- Review operations
- Evaluating alternatives
- Preparing the Request for Proposals
- Evaluating the proposals
- Assisting with negotiations with the selected operator

Collection Route Optimization

(Emerald Coast Utilities Authority, Florida)

With GBB as the prime contractor and C2Logix as subcontractor, the project team has assisted the Emerald Coast Utilities Authority (ECUA), based in Pensacola, Florida, with the implementation of the FleetRoute™ route optimization software under a sub-contract with GBB. ECUA, with a fleet of 80 trucks, provided solid waste and yard trash collection to 65,000 residential properties and commercial businesses within the unincorporated areas of Escambia County. Near the end of 2008, ECUA won the contract for the north Escambia County area adding an additional 13,000 customers. At this time, ECUA also changed to once per week collection and added weekly recycling collection. The Project Team was able to incorporate the new customers, setup weekly recycling and make the change to once per week collection in just over one month's time. Due to the recycling being new to ECUA, the Project Team updated the recycling routes on



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a weekly basis as new customers signed up for service. In one month, ECUA added approximately 20,000 recycle customers at a rate of about 4,000 per week, which the Project Team added weekly and updated the routes.

ECUA embarked on the implementation to balance their routes, reduce overtime, and increase collection efficiency and, being in a high-growth area, make integration of new clients to existing routes easier.

The project Team prepared the Authority's data for use with FleetRoute™, and staff has been trained to use the software and create/update routes in-house. ECUA is utilizing FleetRoute™ for both their residential and commercial routes. FleetRoute™ makes route creation easier and more efficient than manual routing, especially given ECUA's high-growth environment.



Subsequently, a few years later, the GBB Project Team was tasked to develop, as a FleetRoute™ Service Bureau project, new garbage collection routes for ECUA's new contract with neighboring Santa Rosa County. Time was of the essence as ECUA had to begin servicing approximately 33,000 new homes in Santa Rosa County within 2 months.

Solid Waste Collection Systems Analysis and Assessment

(City of San Diego, California)

The Environmental Services Department of the City of San Diego, CA, chose the GBB Project Team to conduct an in-depth analysis and assessment of the City's collection system and provide recommendations to reduce costs and improve operational efficiency. GBB provided key strategic assistance to help the City continue to deliver service levels that citizens have come to expect and depend on, provide for the public health and the cleanliness of the City, and meet recycling and waste reduction goals while remaining sensitive to growing fiscal constraints.

Review of Solid Waste Collection Services

(City of Charlotte, North Carolina)

The GBB Project Team reviewed key data provided by the City of Charlotte Solid Waste Services Department (SWS), reviewed best practices benchmarking information, and conducted on-location work including visit of facilities, field observations of service activities, and interviews of key stakeholders to develop a clear understanding of the qualitative, operational, and policy dynamics that impact performance. The GBB Project Team also considered software used and whether new or updated software could be applied to improve efficiency; type of equipment and its age and maintenance; extent of automation and technology used in collection; crew sizes and worker productivity; the existence of any



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work rules, such as in contracts or union requirements, that may artificially lower productivity; how collection of special waste, such as bulky waste, is handled and how different equipment application, collection requirements, and procedures that could lower costs for managing such materials could yield substantial savings to SWS. GBB then discussed initial findings, recommendations, and opportunities for cost savings and other efficiencies with the SWS Department Director before providing draft and final reports.

Procurement of Collection Services

(City of Allentown, Pennsylvania)

In July 2007, a new collection contract kicked in for the City of Allentown, PA, providing improved services, incentives for increased recycling, and a substantially lower rate increase than in surrounding municipalities. GBB assisted the City with strategic planning and the preparation of the Invitation for Bids (IFB), resulting in three competitive bids for the services. A five-year contract, with options to extend, was ultimately awarded to incumbent Waste Management of Kutztown. In addition to promoting increased recycling, the challenge for the City was to limit the impact on resident rates of rising collection prices due to the high cost of fuel, the increases in truck costs due in part to the new, low-emission engines and the increased federal regulation of truck drivers, and rising labor and insurance costs. Those have added to haulers' expenses in the years since Allentown and area municipalities last signed trash contracts.

Waste Management Routing Solution Project

(Lexington-Fayette Urban County Government, Kentucky)

The GBB Team, including C2Logix, Routeware and Zonar, has been selected to provide a routing solution for the Lexington Fayette Urban County Government (LFUCG). This includes rerouting of LFUCG's residential automated collection system which has three carts per stop for: (1) refuse, (2) single-stream recyclables and (3) yard waste. Also, this includes dynamic routing for LFUCG's commercial, bulk, large brush, dead animal and other point-to-point collections. To achieve the functionality required, on-board computers were installed on the 125 collection vehicles operated and maintained by LFUCG. In addition, the Zonar pre- and post- trip inspection management system was installed on the 125 collection vehicles and monitor availability. Data from the on-board computers, personal management system, customer call-in system, scale system and Zonar is managed by the Routeware Back Office system to manage routes and generate the reports required by the Waste Management Division.



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Solid Waste Collection Franchise Evaluation and Community Information Assistance

(City of Plano, Texas)

GBB conducted an evaluation of waste and recyclables collection in the City of Plano, Texas (pop. 220,000) to determine whether the City should negotiate an extension of its commercial waste collection franchise agreement with the private service provider; undertake procurement for the commercial waste franchise; or expand its public collection program to include services now provided by the commercial franchise holder.



GBB's evaluation also included a review of the City's recycling system to determine ways to increase the level of diversion from commercial generators and an assessment of the C&D materials generated and disposed in the City to determine if there are feasible alternatives to increase recycling and diversion of these materials from the waste stream. GBB's work included field surveys, preparation of analysis and reports, and presentations and briefings of findings and recommendations to the City.

Following GBB's evaluation, guidance, and report to the City, GBB assisted the City in negotiating a new commercial waste and recyclables collection franchise agreement with Trinity Waste Services, a subsidiary of Allied Waste. The new franchise agreement is estimated to save the City several hundred thousand dollars per year as compared to its costs under its previous agreement with Trinity. The new franchise agreement included separate rates for commercial recyclables collection services that are lower than those for waste services; this expanded rate schedule encourages commercial accounts to right size waste services along with recyclables collection services. The new franchise agreement also included a provision for Trinity to upgrade its dual stream Materials Recovery Facility with additional equipment so as to accommodate single stream recyclables flows from both the residential and commercial sectors in the City. The capital cost for these improvements were estimated to be over \$2 million and without charge to the City.



GBB also assisted the City by developing a business plan for a regional composting operation being developed by the City. This addressed feedstock, capital and operations costs, independent product markets, and revenues.



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Review of Recycling and Trash Collection Procedures

(Montgomery County, Maryland)

Montgomery County, MD, selected GBB to review the County's recycling and trash collection procedures in the field and Division of Solid Waste Services' (DSWS) office. The collection operations managed by the County are performed by private service providers under contract to DSWS. GBB reviewed:

- Operations and management, including contract and reporting requirements, field contract oversight and quality control, reporting structure, asset management, customer service and work order system, and other customer communications;
- Collection equipment;
- Recycling set-out quantities and rates;
- High volume/emergency collection plans in case of localized and nationally declared disaster.



GBB's final report provided recommendations for improvements to the curbside collection system, identifying the potential benefits to the County and supported these by the use of benchmark data from other communities. Each recommendation addressed both positive and negative aspects, including cost and scheduling issues, of implementing them.

Solid Waste Collection, Disposal and Recycling Options/Assets Strategic Plan

(City/Parish of Baton Rouge, Louisiana)

The City of Baton Rouge, Parish of East Baton Rouge (City/Parish) (population of approximately 415,000) provides a broad array of solid waste management services to approximately 120,113 residences. The City/Parish spans 472 square miles. These services are governed by the Metro Council and managed through the City/Parish Department of Public Works.

The Metro Council decided that solid waste management services for collecting residential garbage and recyclables,





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and processing of recyclables would be bid out. GBB conducted a thorough assessment of solid waste collection, disposal and recycling options/assets in order to prepare for this process. The Strategic Plan developed and presented to the City/Parish provided critical information needed for decision-making and guided the City/Parish toward a balanced waste and recyclables management system.



GBB's overall objective was to identify alternative administrative, operation and business arrangements that could maintain or reduce the annual level of City/Parish expenditures on managing solid waste, while allowing for upgrades in service to increase efficiency and maximize diversion.

GBB assisted the City management in reviewing the program options available and making recommendations. A selection of specific options was made by the Director of Public Works and endorsed by elected officials and the public. GBB also assisted the City/Parish in the implementation of the selected service changes and strategy through production of bid specification(s) and managing the complex bid process to the point of contract signing by the winning contractor(s). The results of the process were increased service levels and overall cost savings for solid waste management.

B.1.6 – Recycling / Material Recovery Facilities

Development of a Recycling Master Plan / Waste Composition Analysis

(Lexington Fayette Urban County Government, Kentucky)

The Lexington Fayette Urban County Government (LFUCG) operates an integrated solid waste system, serving more than 250,000 residents as well as numerous businesses and institutions, including the University of Kentucky. Through its Division of Waste Management, the system includes waste and recycling collection from residences, a transfer station, a compost facility, a materials recovery facility (MRF), and a landfill. The LFUCG assigned development of a Recycling Master Plan, to identify strategies for the future, to the GBB Project Team which included staff from GBB and sub consultants RRT, MSW Consultants, and J.R. Miller & Associates. The project included several tasks, that, when implemented, will provide for greater effectiveness for diversion from landfilling and produce competitive materials for its markets.

The GBB Project Team conducted a two-season waste composition analysis, including field sorting of waste over a five day period. Waste was sorted into 55 categories, including 11 for construction and demolition materials. For the MRF, the GBB Project Team assessed the physical plant, the site, and ongoing operations. This task identified whether the LFUCG would need a new site and MRF should



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significant revisions was needed for the process system. In another task, materials produced by the MRF were assessed for grade and specification and current markets were assessed. The need for revising the collection system to improve the quality of collected recyclables or to revise the processing system for the same reason was assessed. Also, strategies for increasing the quantities of materials recycled by the residential, commercial, and institutional sectors were identified. Imposing mandatory participation, further public outreach and information, addressing the ease of collection, and revising collection to facilitate similar collection among generator classes were considered. Also, adding materials were considered.

New programs, to include C&D materials, additional organics beyond yard waste, and e-waste were considered. Future building, process system, and land needs were assessed, given implementation of key program elements identified in the Plan, and a comparison of those needs with the existing MRF, were made. Finally, a cost model was set up to estimate future system costs.

Review of Multi-Family Solid Waste Services

(City of Charlotte, North Carolina)

GBB was selected by the City to review the solid waste services provided to Multi-family dwellings greater than 30 units and small businesses, and evaluate the fee structure.

GBB initially reviewed reports and data provided by the City and assisted in developing a cost allocation methodology model for disposal services revenues and costs for the various customer groups serviced by the Solid Waste Services Department (SWS.) GBB also compared the multi-family and small business programs and fees of 5 comparable governmental entities to serve as a benchmark going forward.

Surveys, interviews, and on-location data gathering field work was performed to gather information from with apartment association, select multi-family managers, and small business owners.

Finally, an in-depth review and evaluation of data was performed leading to the development of recommendations for increased recycling, and a fee structure methodology and rates.

Pay-As-You-Throw Workshop

(Georgia Department of Community Affairs [DCA], Atlanta, Georgia)

GBB was retained by the Georgia DCA to conduct a six-hour Pay-As-You-Throw (PAYT) Workshop for Georgia communities, including a lunch period for networking. The Workshop's purpose was to assist local governments in identifying and overcoming impediments to implementing a PAYT municipal waste strategy, in order to reduce costs and provide residents with greater control over their own waste disposal expenses and increase recycling. GBB designed the Workshop, prepared slides and handout materials, and conducted the Workshop.



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Residential Mixed Paper Processing Facility

(Office Paper Systems, Inc., Gaithersburg, Maryland)

GBB assisted in the development of a 200,000-tons-per-year, residential mixed paper (RMP) materials recovery facility (MRF) to serve Montgomery County, Maryland, for the selected contractor, Office Paper Systems, Inc. GBB's assistance included project development, contracting, product marketing, project feasibility reporting for revenue bond financing, and meetings with investors. GBB continues to serve as Project Consultant as defined in the Bond Indenture for the OPS project. As such, GBB conducts an annual performance and financial audit of the facility including: quantities, prices and sources of material to be processed; quantities, prices and grades of recovered materials shipped; facility operations and maintenance elements; and review and concurrence in the annual budget.



Budget Review for Residential Mixed Paper Project

GBB reviewed the projected budget to ensure that it was in conformance with the contract and the bond indenture. This involves analysis of previous years' actuals and overall market conditions. Also, the environment of recycling in Montgomery County and the Washington metro area was taken into consideration.



Residential Curbside Recycling Program Implementation and Recycling Plan Development

(Anne Arundel County, Maryland)

As part of the management consulting services to the Northeast Maryland Waste Disposal Authority (NEMWDA), GBB provided technical assistance for the implementation of a curbside recycling program servicing Anne Arundel County communities surrounding the City of Annapolis.

The first-phase curbside collection program targeted 25,000 households. GBB prepared an implementation plan that included recommendations on equipment and supplies, scheduling, data collection and evaluation procedures, and project management. GBB assisted in negotiations with the private hauler responsible for collection; coordinated procurement of the home storage containers; negotiated signed purchase agreements with markets for the recovered materials; and helped to develop a public information program.

GBB also developed the conceptual design of a small Materials Recovery Facility (MRF) and prepared procurement documents for the Facility. After evaluating proposals for the processing equipment and the building, GBB provided construction monitoring services during construction of the MRF; participated



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in facility acceptance testing; and provided assistance during the operation by County staff. GBB also assisted in privatizing MRF operations when the County decided to contract for operational services.

Additionally, GBB prepared a Recycling Plan for Anne Arundel County pursuant to the requirements of the Maryland Recycling Act. The Recycling Plan set forth step-by-step procedures for expanding and implementing residential and commercial recycling in the County. In addition, sections of the plan included an analysis of the County's waste stream quantities and composition broken down by residential, commercial, and institutional/governmental sectors; an analysis of recyclables and yard waste collection options; an evaluation of materials processing and yard waste composting alternatives; identification of markets and development of a marketing strategy; an implementation schedule and plan; a plan for public information and education; and an analysis of financing alternatives.

Recycling Analysis and Plan

(Northeast Maryland Waste Disposal Authority - City of Baltimore and Baltimore County, Maryland)

GBB worked closely with the City and County of Baltimore through two important phases of their regional recycling program development which were, Conceptual Design and Recycling Plan Preparation. The Baltimore Regional Recycling Plan is the guiding document that outlines the recycling approach to be taken for the area encompassing the City of Baltimore and Baltimore County. The recycling goal for the region was to meet the 20-percent reduction requirement set by the State of Maryland. Following the City's and County's desires, however, the Plan was designed to go beyond the goals established by the State to achieve the maximum feasible level of recycling.

This conclusion was reached following a carefully structured planning process that began with the development of the Baltimore Regional Recycling Concept Plan under GBB's guidance. GBB then conducted two workshops for members of the Project Team that provided a preliminary description of costs and options for both collection and processing available to the City and County. With this information, the City and County were able to narrow the options considered to be viable for the project. An evaluation of the City's proposed approach and an analysis of the options considered by the County was undertaken and reported in the Baltimore Regional Recycling Options Analysis.

Following the results of this analysis, GBB assisted the jurisdictions in developing the Baltimore Regional Recycling Plan. GBB worked with the City and County staff, environmental groups, the City/County Recycling Task Force, the business community, and the general public throughout the planning process, and fostered the open communication needed to prepare a Plan that would be unilaterally accepted. The final Plan described the direction to be taken for the Baltimore Region. This included a program for the collection, processing, and marketing of residential, institutional, and commercial recyclables. These strategies were created to meet each jurisdiction's individual needs, based upon the existing and projected demographics, resources, and budgets. A unique component to this Plan was a regional



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commercial recycling program that encourages commercial recycling by dedicating a staff of experts to developing and guiding both City and County commercial recycling activities.

Subsequent to development of the Plan, GBB also assisted the City and County of Baltimore in actual implementation of their respective programs. Some of these tasks included development of a work plan for the commercial recycling program and assisting with procurement of marketing, processing, and collection services.

Commercial, Multi-family and Special Events Recycling Program Feasibility Study – Including Data Collection and Analysis

(Town of Addison, Texas)

The Town of Addison, TX, contracted with GBB to analyze the feasibility of creating a combined commercial, multi-family and special events recycling program and recommend options for program design and implementation. The Town believed that a combined recycling program with increased diversion would be more cost-effective and would better position the Town to be approved for annual recycling program funding through grants from the North Central Texas Council of Governments (NCT COG). In addition, the Town was eager to explore ways to better manage its solid waste and thus become more sustainable and “green.”



During this first phase of the project, GBB performed the following tasks:

- Evaluated the Town’s solid waste and recycling operations through on-site visits
- Gathered data from existing solid waste programs for businesses, multi-family properties, and Town-run special events.
- Met with representatives from businesses and Town special events as well as observed multi-family properties.
- Met with hauler and processor representatives.

GBB then analyzed the data and conducted benchmark research about other local recycling programs and opportunities. We developed four program options for enhancing recycling at the Town’s businesses, multi-family properties, and special events and submitted a report to the Town Council on January 13, 2009.

The Town chose to further explore one of the program options: transitioning to a commercial and multi-family solid waste and recycling collection system that included restricting commercial trash collection



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service to a single hauler. In a second phase of the project, the Town contracted with GBB to conduct research that would help answer the following questions: What kinds of solid waste and recycling collection services do businesses, organizations and multi-family complexes currently receive? Would the town's businesses, organizations and multi-family complexes embrace the proposed system or should staff expect opposition? What kinds of concerns and questions do solid waste managers have about the proposed new collection system? What kinds of hurdles would need to be overcome in order to implement the new system?

GBB used three research methodologies to obtain current collection information from businesses, organizations, and multi-family complexes as well as opinions from solid waste managers about the proposed new system:

- Online survey completed by more than 100 businesses, organizations and multi-family solid waste decision makers
- In-depth stakeholder interviews with 25 solid waste managers, which included site visits
- Focus group research – three focus groups with decision makers from multifamily complexes, organizations and institutions, and restaurants and retailers.

GBB analyzed the data from the research and presented a report to the Town Council in January 2010. Among the findings, we discovered that businesses, organizations and multi-family complexes actually wanted recycling to be mandatory, something the town had initially rejected as part of the proposal. They also said they wanted flexibility and freedom of choice as to which collector would provide trash collection services. The managers listed more than 20 questions and concerns about the proposed new system, all of which the town will need to address moving forward. In addition, they listed several suggestions for how they might continue to work with the Town as it further evaluates this proposal, setting the stage for the possible formation of a business/ multi-family advisory council that could reduce opposition.

Review of Mixed Waste Processing Facilities (MWPFs) and Sizing Alternatives Evaluation

(City of Chicago, Illinois)

Under subcontract, GBB was hired to perform a detailed review for the City of Chicago, Illinois, of the City collection vehicle traffic patterns and tonnage capacity limits pertaining to potential alternatives for the expansion of operations of the three City-owned Materials Recycling & Recovery Facilities (MRRFs) operated by Allied Waste under contract to the City. The three City owned plants, known as the 34th Street (Lawndale) MRRF, the Medill MRRF and the Northwest MRRF, receive and process municipal solid waste (MSW) and blue bag recyclables from the refuse trucks of the City Streets and Sanitation Department at design rates of 1,000-1,500 tons per day each. The traffic patterns for delivery and queuing before the scale house of over 100,000 truck deliveries per year, the processing equipment systems located inside



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each of the three facilities, and the backend transfer station space and interim storage and transfer capability were reviewed by GBB to identify opportunities for increasing the daily MSW capacity of each site.

GBB provided an independent opinion on the potential upside capacity of each MRRF/Transfer Station based on the ability to allow additional commercial waste garbage trucks from private haulers into the MRRFs, as a supplement to using them strictly for City municipal collections which provide less than design capacity to each facility. The GBB team generated a report which examined the near-term use of the MRRFs by City collection crews, reviewed the processing rates and tipping floor utilization parameters, considered the design parameters, and evaluated the traffic patterns and on-site collection vehicle activities within the confines of each site on an hour-to-basis. Due to demographic locations and available site space and building footprints, the unique differences and potential capacity of each MRRF were independently evaluated as part of the GBB project report presented to the prime contractor and, in turn, the City of Chicago.

Cost Avoidance for Curbside Collection of Recyclables

(City of Seattle, Washington)

GBB completed a Recycling Economic Study for the City of Seattle, Washington. GBB evaluated the total solid waste system cost impact of the City's planned curbside collection program.

To help the City of nearly 490,000 residents to analyze its avoided costs, GBB looked at savings over 5- and 10-year periods. Using a computer cost model, two base cases were run - short-term and long-term -- as well as several alternative cases, to determine the sensitivity of the system to changes in various assumptions, such as the future rate of inflation. The Seattle Solid Waste Utility divides its solid waste collection and disposal system into several distinct "cost centers" for accounting purposes. The cost or profit was calculated for each center's operation; this information was then compiled and used as a basis for establishing system-wide disposal rates. In a sense, the new curbside recycling program becomes another "cost center." The basic economic input data for the City's solid waste system cost centers were taken from the Solid Waste Utility's 1987 budget for rate setting.

To aid in the analysis, the model was programmed to calculate the net savings or loss, from the impact of the curbside program in the year of its occurrence, the 1987 dollar value of that savings or loss, and the net present value of all savings and losses for the term of the study. Pertinent factors regarding the curbside collection systems, general and administrative issues, the existing refuse collection system and transfer/haul operation, and the City's landfill disposal site were taken into consideration in the study.

Based on the results of the cost analysis, GBB concluded that, over a 10-year period and based on 75 percent of the collected materials tonnage being new, the curbside recycling program would be financially beneficial to the City. The curbside recycling program was, therefore, recommended on a financial basis



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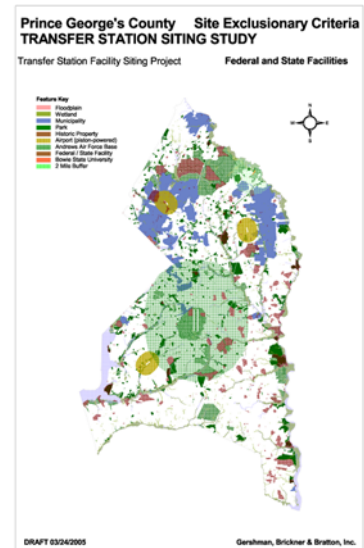
for implementation by the City. GBB also completed a study that described the disposal options available for the remaining fraction of the waste stream not recycled, including municipal solid waste composting and resource recovery.

B.1.7 – Transfer Stations

Transfer Station Siting Study

(Prince George's County, Maryland)

GBB performed a transfer station siting study for the Department of Environmental Resources of Prince George's County, Maryland, one of the largest counties in the Washington, D.C. metropolitan region with an area of over 500 square miles and a population of 820,000. The primary objective of the study was to evaluate sites and their suitability for use as a transfer station. GBB developed conceptual transfer station plans for a single and a dual transfer station options to process the 423,000 tons of residential solid waste that the County collects annually. The conceptual designs were based on key strategic factors and on the County's requirements, including capacity, multi-modal capability and aesthetics. Exclusionary screening criteria were identified and review with the County and included Chesapeake Bay Critical Areas, wetlands, flood plains, land use and air traffic restrictions. Prince George's County is the location of Andrews Air Force Base which is home to Air Force One. After screening the County to eliminate sites based on the exclusionary criteria, nine functional siting criteria were developed to use to rank the sites. Individual sites visits were conducted by a GBB team of experts to address the suitability of each site of the 25 based on their professional assessment. No physical analyses such as borings were made. The sites were scored against the nine criteria and recommendations made in the final report. The final report was presented to the Prince George's County Council Committee addressing the most suitable sites, their advantages and disadvantages, and their suitability for use as a transfer station site.



Solid Waste Transfer Activity Procurement Services for Optimizing Costs/Benefits

(Greater Detroit Resource Recovery Authority, Michigan)

The Greater Detroit Resource Recovery Authority (Authority), which serves the area of the City of Detroit and provides MSW to a 3,000 TPD WTE plant, contracted with GBB to assist the Authority with the procurement of waste transfer services and numerous waste processing options.



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GBB conducted field inspections and gained familiarity with the current GDRRA System which included the six-compactor unit Southfield Transfer Station and a 3,000 TPD waste-to-energy facility.

GBB reviewed the actual tonnages and all the different solid waste materials handled at these sites and developed a Request for Proposals (RFP) for waste services delivery, waste transfer station operations, yard waste composting responsibility, and ultimate disposal needs for end products not going to recycling.

GBB was responsible for the pre-proposal conference and assisted with the evaluation of private-sector proposals, including all their equipment, labor and costs provisions, and assisted in the contractor selection process.

The services outlined in the RFP that were developed by GBB included ten-year contracted costs associated with:

1. The delivery of municipal solid waste (MSW) from private sources or public sources outside the City of Detroit to the Authority's Resource Recovery Facility (RRF)
2. Hauling of MSW from the Southfield Transfer Station to the RRF
3. Hauling of Bulky Waste from the Southfield Transfer Station to a disposal facility selected by the contractor
4. Hauling and composting of Yard Waste from the Southfield Transfer Station to a composting facility selected by the contractor
5. Hauling of selected Bulky Waste from the RRF to a disposal facility selected by the contractor
6. Hauling of separated metals from the RRF to an Authority-designated scrap market which included the hauling of:
 - Front-end separated ferrous metal recovered in the processing of the MSW
 - Back-end ferrous metal extracted from the Ash
 - Back-end non-ferrous metal extracted from the Ash
7. Hauling of, and the disposal of, the Ash, less separated metals, from the RRF to a disposal facility selected by the contractor
8. Hauling and disposal of Bypassed MSW from the RRF that may occasionally be bypassed in emergency situations to a disposal facility selected by the contractor



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9. Hauling and disposal of Residual MSW from the processing of MSW into refuse-derived fuel (RDF) at the RRF to a disposal facility selected by the contractor

Regional Transfer and Disposal Costs Review and Estimates

(Albemarle County, Virginia)

As a subcontractor to Draper Aden Associates, GBB assisted the board of Albemarle County with insight and guidance regarding options for waste disposal and repurposing of existing facilities. As part of the assignment, GBB provided a strategic analysis of existing transfer operations within a 30 mile radius of the Ivy Transfer station, collecting information on throughput tonnage, tipping fees, contractual requirements with the hauling and disposal companies including costs per ton and fuel escalators. GBB also reviewed the City of Charlottesville contract for collection for its municipal solid waste program and provided an analysis of the requirements for implementation of flow control in Albemarle County.

Information on the availability and cost of disposal of MSW at transfer stations and landfills in the Charlottesville and Albemarle County region that are currently used by the City of Charlottesville and private haulers was also developed by GBB.

Feasibility Analysis of Landfill Privatization and Private Transfer Station Development Opportunity, and Economic Analysis of Solid Waste System

(Charles County, Maryland)

GBB performed an assessment of the feasibility of developing a transfer station at the Charles County, MD, landfill to receive the current and projected municipal solid waste flow delivered to the landfill site and contracting with a private service provider for transfer station operation and long-term transport and disposal services. Significant efforts focused on assessing the current operating costs and privatization aspects of converting the current county-owned and run landfill operations to potential contractor-owned and run operations, including all associated county-owned equipment used in landfill operations, as well as conversion of multiple recycling and trash citizen drop-off locations to private ownership and operation.

For this effort, GBB reviewed financial data, such as enterprise fund statements and associated landfill cost/budget data, including projected costs to operate and close the landfill and conduct post-closure care, as well as cost and operations data and metrics regarding the County's convenience centers and recycling system. From this, staff prepared an economic analysis of the capital and operating costs of a transfer station sited at the Charles County Landfill and sized to handle the current and projected municipal solid waste flows from Charles County, taking into consideration population and employment forecasts, the waste stream reasonably expected to be under the County's control, and the projected diversion to reuse and recycling that is presented in the Charles County Solid Waste Management Plan or



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otherwise reported by Charles County. In performing this financial review, solid waste system revenues and expenditures were analyzed in addition to estimating the likely remaining capacity of the current landfill as an asset in the potential private transaction, given additional cell construction timings and sizes. A subsequent phase of the project included preparation of the draft request for proposals (RFP) document for the turnkey construction of a transfer station, including a draft of a preliminary operations contract of the transfer station for inclusion with the RFP.

Transfer Station Operation and Disposal Service Procurement

(Richmond, Virginia)

GBB developed an RFP for the private operation of the City's two transfer stations and disposal of waste in a private landfill. Evaluation of proposals and negotiations with the selected contractor, Browning-Ferris Industries (now Allied Waste), were conducted by GBB, and GBB worked with the City to develop the final contract and plan the transition from City operation to private operation of the transfer stations.

Transfer Station/Disposal Services

(Calvert County, Maryland)

GBB prepared a feasibility assessment of a transfer station with out-of-County disposal service, to be sited at the County's Appeal Landfill. Based on the assessment, the County decided to undertake procurement of a private transfer station, with contracted transportation and disposal services. This would allow the County to take advantage of a capacity surplus and attractive pricing in the marketplace and to greatly extend its landfill life and delay, or possibly avoid construction, closure and post-closure care of a new landfill cell.

GBB assisted Calvert County in the procurement of the private transfer station and transport and disposal services. GBB prepared a Request for Proposals and assisted the County in soliciting and evaluating proposals, developing contract documents, and negotiating a service contract and site lease with the selected contractor, USA Waste Services, Inc. (now Waste Management Inc.). The transfer station is now in operation and providing service.

Private Transfer Station/Disposal Services

(City of Manassas, Virginia)

The City of Manassas, Virginia, retained GBB to evaluate permit applications and proposed business arrangements for privately owned transfer stations to be sited in the City and provide transfer and disposal services to the City as well as out-of-City jurisdictions. The applications, to include a zoning variance, had been submitted by Browning Ferris Industries and Waste Management of Virginia, whose parent companies are the two largest waste service contractors in the U.S.



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GBB met with each vendor, obtained all relevant documents, evaluated the proposed transfer station sites, designs, operating and contingency plans and considered environmental factors such as traffic impacts, noise, vectors, property value impacts, odors, and others. GBB also visited each of the landfills proposed to receive the waste, reviewed the designs, operating plans, and permit conditions and met with the Virginia regulatory authorities to discuss compliance history. Further, GBB reviewed the proposed pricing and business arrangements offered to the City and compared those to other private proposals for similar facilities, particularly in terms of host community fees, tipping fees, and guarantees. GBB then prepared a comprehensive, comparative evaluation report and presented a briefing to the City with recommendations relative to each proposal. The City used GBB's evaluation in negotiations and in establishing conditions in a special use permit.

Transfer Stations & Landfill Facilities - Bond Feasibility Study

(St. Lawrence County, New York)

For the St. Lawrence County Solid Waste Disposal Authority, GBB prepared a Bond Feasibility Report issued in connection with the development and operations of two solid waste transfer stations located in Star Lake and Gouverneur, New York, and the acquisition and management of three existing sanitary landfills located in Ogdensburg, Massena and Canton, New York.

GBB staff reviewed the design and operational plans of the two transfer stations, which included a site analysis, review of the projected service area, a forecast of solid waste generation in the area, environmental impacts and operational considerations. An opinion of the development and capital cost requirements, operational expenses, and estimated service fees was part of the Bond Feasibility Report. Approximately \$5.36 million of Solid Waste Disposal Revenue Bonds were sold, and the two transfer stations were implemented.

Evaluation of Proposals for Solid Waste Transfer and Disposal Services

(Accomack County, Virginia)

GBB was selected to assist Accomack County, Virginia in the evaluation of three unsolicited proposals from private service providers the County received for transfer and disposal of solid waste generated in the County. GBB conducted a field visit to observe the County's landfills, waste drop-off facilities, recycling program and other elements of the County's solid waste management system. GBB also reviewed the proposals and developed questions for the proposers, evaluated the responses, and prepared a memorandum with recommendations to the County regarding the proposals and the County's solid waste management system. GBB presented its findings and recommendations to the County's Board of Supervisors.



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Transfer Station Due Diligence Evaluation for Acquisition

(Confidential Client)

GBB evaluated two existing transfer stations and a C&D waste landfill which were acquisition candidates for a start-up waste service company. GBB provided environmental and operational assessment; site audits; waste supply, service area, and competition analysis; review of economic pro forma and valuation; and a permit renewal and transfer needs assessment. The client used GBB's evaluation in negotiating for the purchase of the facilities.

Transfer Station/Disposal Services Procurement Assistance

(Culpeper County, Virginia)

GBB provided assistance to Culpeper County, Virginia in the procurement of transfer station/disposal services. GBB assisted in pre-proposal meetings, preparation of procurement documents, contractor evaluation, and contract negotiations. GBB also conducted stakeholder meetings to gain input from the solid waste management stakeholders affected by the County's decisions and helped the County evaluate expansion of its Laurel Valley Landfill versus outsourcing transfer station/disposal to the private sector. Also, GBB advised the County in its transfer station/disposal services transition to a contracted private service provider.

Most recently GBB reviewed the Commonwealth of Virginia statutes that govern waste flow in the state for the County. These state requirements were used as the basis for a review of the County solid waste ordinances. Draft revisions to the Culpeper County ordinances, which reflected the state requirements, were delivered to the County.

Transfer and Disposal Services Procurement

(County of Culpeper, Virginia)

GBB assisted Culpeper County, Virginia in the procurement of services for the operation of the County's municipal solid waste (MSW) transfer station and the transfer hauling and disposal of MSW processed at the transfer station. GBB also assisted in the procurement of operating services for the County's solid waste and recycling convenience centers. GBB's services include assisting the County's Department of Environmental Services in the preparation of a Request for Proposals and draft service agreement, review and evaluation of proposals, meetings/negotiations with proposers and/or the selected contractor(s) and related guidance in the procurement and contracting process.



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Transfer Station Analysis

(City of Uniontown, Pennsylvania)

As part of the consulting services provided to the City, GBB prepared a transfer station analysis and implementation plan for the City. The analysis highlighted the advantages and disadvantages of all transfer stations systems; evaluated the ownership, operation alternatives, and siting options; and developed a transfer station options cost analysis. The cost analysis estimated and compared construction costs, compaction system costs, and open-top system costs. Finally, the analysis compared transfer-haul costs with direct-haul costs.

Transfer Station and Landfill Operations Evaluation

(Metro Waste Authority, Des Moines, Iowa)

GBB and its project team provided consulting services to the Des Moines Metro Waste Authority. GBB conducted an extensive technical evaluation, operations analysis and cost audit of the Authority's transfer station and landfill system. GBB also conducted a detailed waste stream audit, including a waste sorting program. In addition, remaining landfill space and available quantities of suitable cover were assessed for the purposes of developing landfill life expectancy projections.

Solid Waste Transportation and Transfer Station Analysis

(Talbot County, Maryland)

Talbot County was faced with the possibility of having to transport its solid waste to a disposal/processing site substantially farther than its current landfill. GBB was retained to conduct a study of transportation costs. The study included a transfer station site evaluation, transfer station/transport system cost analysis, and a comparative assessment of direct haul versus transfer haul to selected disposal site locations. Alternative ownership arrangements are presented in the analysis. The study helped Talbot County decide on a solid waste transport system as part of its long-term solid waste management program.

Waste Disposal Options Study

(East Central Minnesota [Five County Planning Area])

For five rural counties immediately northeast of the Minneapolis-St. Paul Metro area, GBB reviewed two different waste disposal options. The counties generated a total of about 150 tons per day of solid waste. The recommended alternative was participating as a waste supplier in the 1,000 TPD Anoka County, Minnesota refuse-derived-fuel (RDF) processing facility. This processing facility would burn RDF at the existing UPA Elk River, Minnesota coal fired power plant. GBB was lead negotiator for the Counties over



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a six-month period as details were developed by NSP on a 20-year service agreement. As a disposal alternative, GBB also evaluated the existing 250 TPD Western Lake Superior Sanitation District project in Duluth.

GBB reviewed direct haul costs economics to a centrally located transfer station, costs for inclusion of an RDF preprocessing system to upgrade the solid waste to reduce the total noncombustible content of the waste hauled from the five county area 50 miles to the RDF processing facility. GBB also reviewed processing plant costs, and considered residue haul and disposal costs for ultimate landfilling of ash residue and bypassed waste.

B.1.8 – Landfills

Evaluation of Long-term Disposal Alternatives for Wasatch Front Communities

(Salt Lake County, Utah)

GBB, in association with EMCON/OWT, Inc. and R. L. Banks & Associates, Inc., evaluated three existing landfills and three proposed facilities as long-term options to serve the disposal needs or a portion of those needs for Salt Lake County, Salt Lake City, and other participating communities along Utah's Wasatch Front. The evaluation included technical, economic, contractual, environmental, financial, and permitting/regulatory considerations for each alternative according to pre-established evaluation criteria.

Transport considerations and development of both rail and truck haul costs and the associated infrastructure needs to accommodate such transport of waste were important elements of the evaluation. The evaluation also included a transfer station cost analysis using different transfer station capacities and field visits to existing and proposed landfills and three transfer stations. The participating Wasatch Front communities used the evaluation and findings of the study in their decision-making and subsequent procurement activities for contracting with disposal facilities to meet their long-term needs.

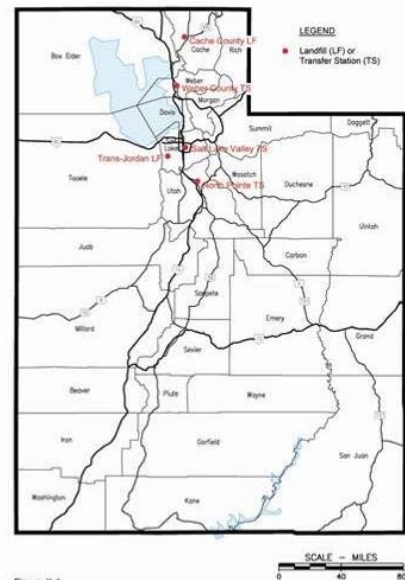


Figure B-1
Participating Wasatch Front Communities' Facilities



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Landfill Closure Review

(Municipality of Anchorage, Alaska)

GBB was tasked to review and provide a professional opinion letter as to the amount of the Municipality of Anchorage's accrued landfill closure and post-closure care liability. As part of the assignment, the GBB Project Team:

- Reviewed documents including, but not limited to, landfill permit, landfill design capacity, current airspace utilization, closure and post-closure care costs.
- Developed a professional opinion letter regarding the amount of accrued landfill closure and post-closure care liability and submitted it to the Anchorage Solid Waste Services Department.
- Met with the Municipality and other officials to present and discuss the opinion.

Business Plan for Solid Waste Disposal Capacity

(Rockingham County, North Carolina)

GBB was selected to conduct an evaluation of the Rockingham County Landfill to provide advice on improving the landfill operation (e.g., compaction, slope angle), understanding the landfill market, and understanding the risk/benefits of a potential public/private partnership.

GBB conducted on-site operations reviews of the County's fixed and mobile assets, and made recommendations regarding asset management and equipment replacement. GBB developed a spreadsheet-based model of the landfill life that incorporated waste tonnages and types, compaction rates, and cover material types and utilization, to better understand the current operation of the landfill and identify potential changes to the landfill operation. Using the model, several operational scenarios were evaluated to understand the impact of changes in landfill disposal tonnage to the landfill life. GBB gathered information on the solid waste management practices in the region and evaluated opportunities for the County to offer cost-effective disposal to other communities. GBB also evaluated the various County recycling programs to consider ways to improve the programs, including improvements to recycling at drop-off centers, increased curbside collection, and improved recycling participation, and provided a review of proven and alternative technologies for converting waste to energy or fuels. As a private regional landfill had been proposed in the region, GBB reviewed the landfill site and preliminary design documentation to evaluate its feasibility and regulatory compliance status.

This information was presented in a written report, and GBB presented a summary of the report to the Rockingham County Board of Commissioners in a public forum.



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Landfill Analysis

(City of Baton Rouge / Parish of East Baton Rouge, Louisiana)

GBB was tasked to analyze the effectiveness of doing a new woody waste processing / recycling project at the Baton Rouge North Landfill by the current landfill contractor. The GBB Project team analyzed the operator's proposal in terms of overall effectiveness and feasibility; reviewed the short and long-term impact to the budget; and the short and long-term impact to the solid waste recycling strategy, which includes consideration of a 'one-bin' system.

Landfill Valuation, Procurement and Contract Negotiation Assistance

(City of Arlington, Texas)

GBB, in association with PricewaterhouseCoopers Waste Group, conducted a Phase I valuation/appraisal of the City of Arlington's municipal solid waste landfill to determine its estimated value in the marketplace and assist the City in deciding whether to retain ownership and continue operation of this asset as a municipal facility or to sell or lease the landfill to a qualified private contractor that would operate the landfill and provide disposal services to the City, and likely others in the region, yielding revenues to the City in the form of lease/rentals and royalties or from an outright sale. The primary valuation work in Phase I was completed by PricewaterhouseCoopers.



Once the City decided to pursue procurement of a contractor to lease the landfill, GBB assisted in Phase II in preparing procurement documents, including substantial input in the development of the lease and operating agreement, and guiding the City in procurement, proposals evaluation, and in the negotiation process that led to an attractive lease and operating agreement with the selected contractor, Republic Waste Services of Texas, Ltd.

Procurement of a Lessee/Operator for the City's Southeast Landfill

(City of Fort Worth, Texas)

GBB helped the City of Fort Worth, Texas, to procure a lessee/operator for the City's Southeast Landfill and secure long-term disposal services for the portion of the City's waste that is not recycled and/or processed for beneficial use. The GBB Project Team assisted the City in deciding whether to retain ownership and continue to operate the Southeast Landfill or to sell or lease the Landfill to a qualified private contractor. The City decided to pursue a competitive procurement of a lease and operate contractor, with the City retaining landfill ownership. GBB assisted in preparing the procurement documents, evaluation of proposals, proposer interviews, and negotiations with the selected proposer, Allied Waste (dba Trinity Waste Services).



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The Lease and Operating Agreement between the City and Trinity, with performance guaranty by Allied Waste industries, Inc. (which was acquired by Republic Services, Inc. in 2008), provides substantial financial benefits and disposal security features for the City.

Evaluation of a Disposal Franchise Agreement and Negotiations Assistance

(Montgomery County, North Carolina)

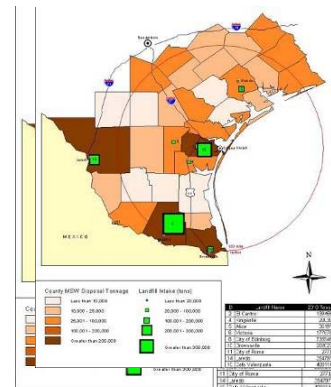
GBB assisted Montgomery County by reviewing an existing disposal franchise agreement between the County and its landfill operator and advising on needed revisions. As part of this effort, GBB visited the contracted operator's landfill and materials recovery facility and advised the County on the operations at those facilities. GBB was then retained by the County to assist in the development and negotiations of an amended and restated disposal franchise agreement.

GBB also assisted in preparing a review of the County's host community benefits and determining the accuracy of calculations over the several years since the agreement providing for those benefits had been in place. GBB's services included meeting with a local public interest group to obtain their input in the needs of an amended franchise agreement and meetings with County Commissioners to apprise them of findings and issues, as appropriate.

Landfills Contractor Procurement and Business Plan

(City of Corpus Christi, Texas)

For the City of Corpus Christi, Texas, GBB was retained to assist in the development of a business plan leading to the procurement of a private contractor to build and operate the City's Cefe Valenzuela Landfill, a greenfield site previously designed and permitted by the City and its local engineering consultant. The business plan included an extensive waste supply/market assessment; evaluation of transfer station construction and operation; and an economic analysis and financial review of several alternative scenarios involving different operator confirmations, waste intake, and transfer station components. The business plan also addressed the potential for a private contractor to take over operations of the City's existing J. C. Elliott Landfill and yard waste mulching operation, with options to convert that facility to a construction and demolition waste (C&D) landfill upon start-up of the Cefe Valenzuela Landfill, continue its operation, delay the opening of a new landfill, and develop and operate a transfer station at that location. Finally, the business plan provided a need analysis; set forth a program for the management, marketing of services and operation of both facilities; and outlined the suggested procurement steps and schedule.





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this supplemental source of funding to buttress the City's declining tipping fee revenues at its Elliott Landfill.

In addition, as part of its services for the City of Corpus Christi, GBB assisted in the preparation of specifications and review and analysis of bids for refuse carts to be distributed to residences in the first phase of the City's conversion from manual to automated refuse collection.

The new fees were adopted by City Council and have been successfully implemented.

Landfill Design, Permitting, Procurement Assistance, & Municipal Solid Waste User & Tip Fee Analysis

(Anne Arundel County, Maryland)

GBB provided landfill planning, permitting, engineering analysis and construction administration services to Anne Arundel County's Bureau of Solid Waste for the County-operated Millersville landfill which received 1,200 tons per day. GBB also provided assistance in the redesign, planning, and closure bid documents for the Sudley Landfill, a smaller 200 TPD facility. GBB managed the project team in the redesign and permit activities for the two landfills. GBB prepared detailed cost estimates for capital and operating expenditures for the life of the landfills, including construction, operation, closure, and post-closure activities. GBB coordinated permitting activities with the Army Corps of Engineers, State of Maryland Department of Natural Resources, Soil Conservation Service, Maryland Historical Trust, and Maryland Department of the Environment.

Further, GBB provided procurement assistance to the County in preparation of bid documents as well as evaluation and selection assistance for the construction of the Millersville Landfill Cell 8. GBB monitored construction of the landfill and assisted the County with further permitting of an additional cell (Cell 9).

GBB also provided economic recommendations to the County on the user fee needs and revenues to pay for the Bureau of Solid Waste's entire budget. As part of this work, GBB prepared 20-year life-cycle cost and revenue projections on all aspects of the Bureau's operations, including collection services, recycling, community education, administration, and landfill capital and operating costs. Further, GBB provided certain feasibility analyses and contingency planning to evaluate costs of closing and relocating certain completed sections of the Millersville Landfill and for use of alternative disposal facilities prior to completion of Cell 8 construction, if necessary.

In preparing the County for operation in the new lined expansion area, GBB conducted an operator training course for over 50 County staff and developed a comprehensive Landfill Management and Operations Manual to be used in day-to-day operation at the state-of-the-art facility. The Manual includes facility layout, operation, leachate and gas management and monitoring, equipment selection, utilization and maintenance, personnel duties and training, facility safety and emergency plans and procedures, and recordkeeping and reporting, including appropriate forms and procedures to use.



Proposal for a Solid Waste Disposal Feasibility Study

Appendix B – Marketing Material

B.2 - GBB Corporate Brochure



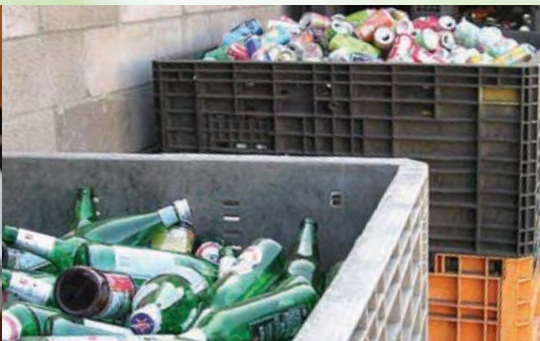
Appendix B – Marketing Material

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Gershman, Brickner & Bratton, Inc.

Innovation and Leadership
in Waste Management



QUALITY • VALUE • ETHICS • RESULTS



www.gbbinc.com



“Earth Day 1970 first inspired my career to focus on helping do better things with waste. And, I have been able to do just that for the past 40+ years.”

Harvey Gershman
President and Co-Founder

Specialties: Strategic thinking and planning; procurement and negotiation assistance; system administration; change management; and project financing coordination.

“I find satisfaction in helping advance the local decision-making process on solid waste issues and making an environmental contribution, even though we are typically invisible to the public served.”

Robert Brickner
Founder Associate and Co-Founder

Specialties: System reviews; technical and economic evaluations of project opportunities; C&D recycling and management; procurement evaluations and negotiations.



QUALITY • VALUE • ETHICS • RESULTS

County of Denver CONNECTICUT Town of Shelton Town of Southbury Town of Windsor City of Norwalk Connecticut Resources Recovery Authority DELAWARE Delaware Solid Waste Authority DISTRICT OF COLUMBIA U.S. Postal Service Headquarters Aluminum Association International Soft Drink Association U.S. Conference of Mayors St. Elizabeth's Hospital Eagle Maintenance District of Columbia Government FLORIDA Palm Beach County Florida Department of Environmental Resources Broward County Lee County Miami-Dade County Kissimmee Herald Coast Utilities Authority GEORGIA Gwinnett County Coastal Georgia Regional Development Center, Brunswick College Park and East Point Statesville HAWAII Maui County Kauai County ILLINOIS Peoria County CornerStone Material Recovery Champaign and Urbana U.S. Department of Energy INDIANA City of Valparaiso City of Wabash IOWA Metro Waste Authority, Des Moines Iowa Dept. of Natural Resources West Central Intergovernmental Association Hardin County Scott Area Solid Waste Management Commission, Scott County Carroll County Audubon, Crawford, and Shelby Counties Marshall County Landfill Commission Marshall County Ottumwa-Wapello Counties Sioux City Lathoun County Upper Explorerland Region Iowa Energy Policy Council Artistic Waste Services Phoenix C&D Recycling KANSAS Kansas Department of Corrections Harper County LOUISIANA Shreveport Chamber of Commerce Jefferson Parish City of New Orleans City of Baton Rouge-Parish of East Baton Rouge MAINE Aroostook County Waterville-Winslow City of Portland MARYLAND City of Annapolis City of Baltimore Baltimore County Washington County Frederick County Ocean City City of Gaithersburg Harford County Maryland Office of Attorney General Montgomery County Northeast Maryland Waste Disposal Authority, Baltimore Anne Arundel County Calvert County Caroline County Town of Easton Charles County Somerset County Talbot and Queen Anne's Counties Wicomico County USPS – Baltimore Division Maryland Recyclers Coalition Maryland Dept. of the Environment St. Mary's County McCormick and Company Prince George's County



Photo by Huguette Roe

Innovative, Sustainable Solutions for Solid Waste Management

Solid Waste Management: Our Passion

At Gershman, Brickner & Bratton, Inc. (GBB), we believe effective management of solid waste is an imperative that directly affects the health of our planet—both today and far into the future. In a world of limited resources, we regard solid waste as a valuable resource that can be creatively managed while protecting our soil, air, water and people.

We consider sustainability to involve a balance among environmental, economic and community needs. Achievement of this balance with cost-effective, efficient and innovative solid waste solutions is our passion—and our focus.

We also believe that using best practices to solve solid waste challenges can result in doing more with less. Finally, we uphold as a key value the importance of transparency and honesty in our relationships with clients.

What We Do

GBB is an international management consulting firm that helps public- and private-sector organizations craft practical, customized and technically sound solutions for complex solid waste management challenges.

Clients come to us for our independent, objective advice that helps them plan and implement solid waste management programs that improve efficiencies, save money, enhance customer service and protect the environment. Our services enable our clients to do more with less.

During the past 30 years, as the solid waste industry has grown and EPA's solid waste management hierarchy has increasingly informed waste management decisions, we have been a trusted resource at the forefront of the industry, creating success stories that integrate smart planning with effective management of solid waste services.

How We Do It

Based on our expert analysis and drawing on the experience, skills and entrepreneurial approach of our staff, we uncover innovative solutions to solid waste challenges. We are recognized for our knowledge of recycling and collection best practices as well as emerging trends in solid waste management, including technologies that create renewable chemicals, fuels and energy from waste. We also can step in to provide transition services to manage solid waste administration, operations and facilities, with results that include significantly improved allocation of resources, expanded services, reduced customer complaints and lower costs.

Comprehensive Services

GBB's services include:

- Strategic planning for sustainable waste management systems
- Planning, procurement and contracting for:
 - Collection services analysis and implementation
 - Collection routing software
 - Recycling planning and program implementation
 - Transfer and disposal services
 - Waste-to-energy and conversion technologies consulting
 - Landfill facilities operations and management
 - Facilities administration
 - District energy projects
- Benchmarking and financial analysis of solid waste systems
- Construction and operations monitoring
- System and facilities administration and oversight
- Market research and analysis
- Expert witness testimony and dispute resolution

A more complete description of our services and examples from the communities and organizations GBB has served can be found at www.gbbinc.com/services.



"I'm a passionate advocate for environmental issues - including sustainability, waste reduction, recycling, composting and integrated waste management - while being focused on the triple bottom line: people, planet and profits."

Lori Scozzafava
Vice President, Operations Officer

Specialties: Strategic planning, sustainability, waste reduction, recycling, composting, environmental education, and integrated waste management.



Expert Witness Services

With extensive experience in the industry, GBB's officers are uniquely qualified to give expert witness testimony and dispute resolution service on waste industry cases.

Expert Witness Services include:

- Contractual and other business disputes
- Disposal fee and cost assessment disputes
- Environmental pollution liability and potential responsible party cost allocation
- Franchising and contracting claims
- Personal or worker injury
- Statutory and regulatory interpretation
- Technology evaluations, license disputes and patent infringement
- Waste characterization and market evaluations
- Waste flow control lawsuits

"GBB was extremely knowledgeable and helpful in the City of Allentown's collection contract bid revision process that resulted in a 50%-70% lower collection rate increase than surrounding municipalities. They were also able to meet some very tight deadlines in our process. I highly recommend GBB."

— Betsy Levin
former Director of Community Development
City of Allentown, Pennsylvania

"GBB's assistance in articulating a plan that was able to address closing a number of inefficient landfills while creating a dependable regional disposal system was invaluable, especially the firm's ability to draw a majority of the County's 24 cities into the 'Partnership Strategy'... I also appreciated GBB's ability to navigate the treacherous political waters."

— Gerald Newcombe
Associate Administrative Officer
County of San Bernardino, California

GBB Success Stories

GBB is proud to have helped hundreds of communities and organizations throughout the country and overseas achieve measurable results, including substantial cost savings, efficiencies, increased diversion and new revenues.

Territory of Guam: [159,358 residents] **A 180-Degree Turnaround in Solid Waste Management**

BACKGROUND

On March 17, 2008, the U.S. District Court of Guam appointed GBB as Receiver of the Territory of Guam's Solid Waste Management Division (SWMD), now known as the Guam Solid Waste Authority (GSWA). As Receiver, GBB is responsible for the management of the employees, equipment, facilities, payroll and implementation of all 2004 Consent Decree projects to bring the Territory into compliance with the Clean Water Act.

The table on page 5 shows how GBB has executed a 180-degree turnaround to bring Guam into compliance with the Consent Decree.

LOOKING FORWARD

- Ordot Dump remediation completed and a permanent cap installed on the Dump
- Construction of a new transfer station with a household hazardous waste recycling center
- Improvements to the three existing transfer stations
- A modern solid waste management system that will bring Guam into compliance with the 2004 Consent Decree

More information at www.GuamSolidWasteReceiver.org and www.GuamSolidWasteAuthority.com

NOTE: All population figures are from the 2010 U.S. Census data



“Despite [the] challenges, the Receiver has turned the formerly defunct SWMD into an efficient, reliable, and self-financing government entity. In addition to improvements at the SWMD, the Receiver has made significant strides in fulfilling the requirements of the Consent Decree.”

— District Court Chief Judge
Frances Tydingco-Gatewood,
September 2, 2011, Court Order

“The federal Receiver, Gershman, Brickner & Bratton Inc., has the island’s thanks for fixing and improving the government’s solid waste program ... In short, the Receiver has transformed the way the island deals with waste.”

— Pacific Daily News editorial,
August 30, 2011



When GBB arrived	RESULTS
<ul style="list-style-type: none"> • Ordot Dump out of regulatory compliance for 22 years, polluting nearby river and groundwater; creating odors and fires 	<ul style="list-style-type: none"> • Changed operations at the Ordot Dump to minimize neighborhood impacts • Closed the Ordot Dump on August 31, 2011 • Began remediation of the Ordot Dump and surrounding site
<ul style="list-style-type: none"> • New landfill neither permitted nor built 	<ul style="list-style-type: none"> • Completed construction of and opened the state-of-the-art Layon Landfill on September 1, 2011 • Contracted for a hauler-only transfer station to consolidate loads for the landfill, reducing truck traffic
<ul style="list-style-type: none"> • Solid Waste Management Division unable to cover costs; only 68% of service billings collected 	<ul style="list-style-type: none"> • Achieved reduction in SWMD operations expenses by more than 30%; payroll and operating expenses consistently under budget • Installed new accounting and billing system • Achieved a 98% rate of collection on residential billings • Installed new weigh scale for more accurate measurement of waste and calculation of tip fees
<ul style="list-style-type: none"> • Poor condition of transfer stations and facilities for frontline staff 	<ul style="list-style-type: none"> • Cleaned up transfer stations • Improved staff morale with clean facilities and streamlined operations
<ul style="list-style-type: none"> • Inefficient solid waste operations 	<ul style="list-style-type: none"> • Reduced spending on leased equipment from \$11,000 to \$464 per day • Reduced staff by 43%, from 99 to 56 • Reduced daily collection shifts from three to one
<ul style="list-style-type: none"> • Trucks and equipment aged and in disrepair; unprocessed requests to fix equipment 	<ul style="list-style-type: none"> • Completed procurements for purchase of new trucks, equipment and maintenance
<ul style="list-style-type: none"> • Trash collection service inconsistent; customer complaints high 	<ul style="list-style-type: none"> • Implemented on-time, consistent trash collection with an 85% reduction in customer complaints • Registered more than 17,000 customers for new cart-based collection service, a 29% increase over number of customers in 2008 • Implemented cart-based trash collection system that features radio frequency identification (RFID) tags, optimized routing and a state-of-the-art billing and accounting system
<ul style="list-style-type: none"> • No GovGuam recycling programs; 2% diversion vs. 25% required by Guam law 	<ul style="list-style-type: none"> • Opened recycling convenience centers at transfer stations • Achieved a 30% reduction in volume of waste disposed, resulting from a ban on certain recyclables and construction and demolition waste • Implemented curbside collection of metallic and bulky waste • Implemented pilot curbside recycling program for 1,000 customers in order to evaluate feasibility of curbside recycling collection for all residential customers
<ul style="list-style-type: none"> • No financing plan to raise estimated \$160 million capital needed to undertake Consent Decree projects 	<ul style="list-style-type: none"> • With financing plan recommended by Receiver, GovGuam has secured full funding for Consent Decree projects



City of Baton Rouge / Parish of East Baton Rouge, Louisiana [440,171 residents]

OUR ROLE

- Conducted a strategic review of Baton Rouge's collection, disposal and recycling options and costs, followed by development of a strategic plan
- Managed the procurement process for a new residential single-stream recycling program with 58,565 64-gallon rolling recycling carts

RESULTS

- Dramatically increased customer service levels, cost savings and diversion
- Increased curbside recycling tonnage by 54%, from 11,188 tons before the new cart program began to more than 17,242 tons during the first program year
- Achieved a 33% cost savings



Susan Hamilton, shown here with GBB President Harvey Gersham, after receiving the 2007 Outstanding Public Education Award from the National Recycling Coalition.

“The biggest hurdle was getting through the contract writing, bid and award process. GBB was instrumental in helping us procure a collection contract that has reduced costs by a third. Plus, the contractor purchased the recycling carts at no separate cost to us. With an increase in diversion of 54%, we no doubt have one of the most economical, progressive cart programs in the country.”

— Susan Hamilton, Director of Recycling,
Department of Public Works, City of Baton Rouge,
Parish of East Baton Rouge, Louisiana

"I help clients understand and improve their solid waste systems. We can help turn solid waste liabilities into environmental and economic opportunities."

John Carlton, PE, BCEE
Senior Vice President

Specialties: Strategic thinking and planning; solving complex problems; and managing large, complicated projects.



City of Fort Worth, Texas [741,206 residents]

OUR ROLE

- Organized a diverse team for planning and procurement; met the City Council's aggressive schedule
- Managed a complex procurement for collections of residential and commercial waste, as well as recycling collection and processing
- Managed procurement for landfill lease and operations

RESULTS

- Achieved a more sustainable approach to solid waste management with cost savings and new revenues
- Recycling diversion jumped from 6% to over 20% with a participation rate that nearly doubled, from 38% to 70%
- New revenues from lease rentals, royalties and recyclables sales are projected to be substantial over the terms of the 20-year contracts

"GBB has provided the City of Fort Worth with valuable insight into the local, regional and national solid waste community that has allowed us to not only maximize revenues and lower and stabilize costs for our residents but also create a program that protects our citizens' solid waste assets for the next 20+ years."

— Brian Boerner, Former Director of Environmental Management,
City of Fort Worth, Texas





Metropolitan Government of Nashville and Davidson County, Tennessee [626,681 residents]

OUR ROLE

- Created a long-term, strategic solid waste management plan for Metro that generated cost data for collection business units
- Analyzed options for replacing Metro's aging downtown waste-to-energy facility (Thermal) with a new, highly efficient District Energy System (DES)
- Prepared the feasibility report for \$66.7 million in revenue bonds to finance the construction of the new natural gas-fired steam and electricity-driven chilled water generating facility and administered the new DES through construction and initial three years of operation

RESULTS

- Achieved cost savings and efficiencies through strategic planning, procurement, GIS path routing and a new, award-winning DES
- In less than four months, completed Metro's solid waste disposal services procurement that dropped disposal costs 65%, from \$75 to \$26.50 per ton
- In three months, implemented new, balanced routes for curbside trash and recycling collection for 120,000 households, with GIS path routing

- Independent audit confirmed that actual savings exceeded estimate
- DES has been recognized nationally for leadership, service, engineering and partnerships, and was named System of the Year by the International District Energy Association



Photo courtesy of Stringfellow, Inc., Nashville, Tennessee

“I help develop programs and projects implementing the 3 E’s of sustainability: ecology, economy, and equity. Initiatives must address all three to be successfully designed for the long run.”

Stephen Simmons
Vice President

Specialties: Renewable energy; technology evaluation; business financial modeling; and facility design, procurement, and construction.



Madera County, California [150,865 residents]

OUR ROLE

- After County terminated collections and operations contracts for its landfill, MRF and HHW facility, conducted data analysis and operations review
- Developed procurement documents and assisted with fast-track procurement process

RESULTS

- Procurement of the new landfill operator and additional waste to the landfill is expected to result in an approximate 60% reduction in disposal fees
- Procurement of a new franchise collection contractor is expected to result in 20%–40% reduction in service rates to residential customers as well as curbside collection of recyclables

“We can’t say enough about how you helped us, educated us and advised us throughout the process, always treating the assignment with the utmost dedication, making our objectives your priority, continually communicating with us, and providing your fresh perspective on the important, time-sensitive challenges we faced.”

— Eric Fleming, Administrative Officer
Madera County, California

Southeastern Oakland County Resource Recovery Authority (SOCRRA), Michigan

OUR ROLE

- Managed a cooperative collection transfer and disposal services procurement for 12 communities, 100,000 homes and 283,000 citizens

RESULTS

- Achieved over 16% savings on collection, transfer station operations and disposal services

“This has been a grueling three-month-long clarification process, and results wouldn’t have been the same without GBB’s facilitation and wealth of experience from which to bounce off ideas... Even more amazing is the fact that we exceeded our Board’s dictate (for a 10% cut) by about \$1,040,000. Who would ever have guessed that we’d achieve a 16% cost reduction by this RFP process?!”

— Michael A. Czuprenski, P.E.,
former Operations Director SOCCRA,
Royal Oak, Michigan



Maui County, Hawaii [154,834 residents]

OUR ROLE

- Led the project team that developed the plan to achieve 60% recycling diversion (state goal is 50%)
- Provided analysis and recommendations for single-stream curbside recycling and weekly trash collection; collection of bulky and household hazardous waste; C&D recycling; materials recovery facilities for recyclables and C&D; landfill gas collection for electricity generation; consolidated operation centers; new technologies to convert waste to electricity; and public education

RESULTS

- Working with the Solid Waste Resource Advisory Committee assembled by Mayor Charmaine Tavares and the County of Maui Department of Environmental Management, developed a new Integrated Solid Waste Management Plan that, when implemented, is designed to increase recycling diversion from 36% to 60%

City of Plano, Texas [259,841 residents]

OUR ROLE

- Evaluated Plano's commercial waste and recyclables collection system and rate structure
- Assisted in negotiations of a new franchise agreement to add single-stream recycling
- Provided technical training and marketing/public education tools
- Developed a comprehensive business plan for a regional composting operation; evaluated options for increasing recycling of C&D materials

RESULTS

- Increased commercial recycling diversion from 11% to 19% in five years
- Achieved significant cost savings

“GBB was instrumental in the negotiation of our franchise agreement. As a result of their technical expertise and innovative approach, the City of Plano received additional funding to support a comprehensive commercial recycling program. In addition, the franchised commercial hauler invested \$1.3 million in technology upgrades at its MRF.”

— Nancy Nevil, Director of Sustainability and Environmental Services, City of Plano, Texas

City of Fort Wayne, Indiana [253,691 residents]

OUR ROLE

- Conducted a strategic review of the City's current trash and recycling collection programs, and current disposal and material processing; provided recommendation for future programs to improve efficiencies and increase diversion
- Facilitated Solid Waste Committee meetings and obtained citizen input through surveys and neighborhood association meetings
- Oversaw the procurement process, evaluated bids and assisted in contracting for new solid waste and recycling contracts

RESULTS

- Reduced residential trash fees by more than \$1 million
- Generated \$500,000 for City with revenue-sharing provision in collection contract
- Doubled participation in recycling to 68% (2011)
- Indiana Association of City and Towns and Solid Waste Association of North America both recognized City's achievements with awards in 2011 and 2012 respectively

“Your firm’s expertise in the solid waste management field was very beneficial for the City of Fort Wayne as can be seen by the competitive bids we received this past summer. Being able to lower residents’ monthly fees is a welcome change from solid waste bids received in the past.”

— Bob Kennedy, Public Works Director,
City of Fort Wayne, Indiana

C&D Recycling and Management Success Stories

GBB is recognized as a national leader in construction waste and demolition debris (C&D) management.

Metropolitan Government of Nashville and Davidson County, Tennessee [626,681 residents]

OUR ROLE

- With “green and best practices demolition,” managed fast-track demolition of Metro Nashville’s aging waste-to-energy facility (Thermal) after a fire, monitoring removal of over 10,000 cubic yards of charred waste from the tipping floor and pit

RESULTS

- Achieved 98.5% resale-reuse-recycling; special equipment auction generated 150 transactions, netting \$983,000
- Total net cost of the demolition: \$120,000 versus initial estimate of \$2.5 million, with no ambient air quality disturbances or worker injuries

National Demolition Association (NDA) and Construction Materials Recycling Association (CMRA): C&D Waste Research

- GBB’s national studies for NDA and CMRA of the total amount of C&D materials generated, processed and recycled annually serve as a trusted resource for the U.S. EPA, policy makers and industry leaders.

“The [2006] survey was incredibly helpful and will be part of the EPA 2006–2011 National Policy. These data influence EPA policy.”

— Michael Dunn, Team Leader,
Industrial Materials Recycling
Program, U.S. EPA



“I help clients find efficient, environmentally acceptable solutions to their solid waste management issues, from design development to construction management and start-up operations.”

Chris Lund, PE
Senior Vice President

Specialties: Execution of multi-year/multi-disciplined project management in landfill and transfer station engineering; environmental cleanup and remediation; permitting and construction management.



Fauquier County, Virginia [65,203 residents]

OUR ROLE

- Managed fast-track procurement process for a state-of-the-art 400 cubic-yard-per-hour, \$1.2 million C&D processing and recovery facility

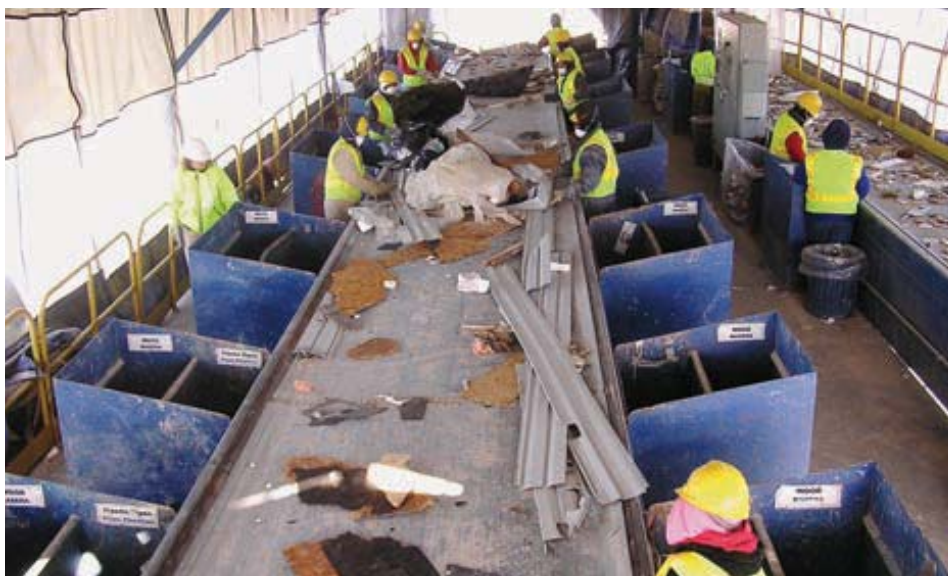
RESULTS

- Obtained County approval of the facility, which now increases recycling, maximizes landfill life and generates revenues to help fund and support the County's solid waste management services

“In a fast-tracked procurement process, GBB brought valuable insight. The combination of GBB’s procurement experience and C&D knowledge gave the County assurance that we were headed in the right direction at a crucial time.”

— Mike Dorsey, Director of Environmental Services, Fauquier County, Virginia

For more information about GBB’s C&D recycling services and projects: www.gbbinc.com/cd



Waste-to-Energy and Emerging Technologies

GBB's waste management expertise extends to waste-to-energy (WTE) projects and financing as well as conversion technologies and mixed waste processing.

GBB has worked on more than 200 waste-to-energy projects, from initial feasibility study and economic analysis to vendor negotiations and commercial operations monitoring. GBB also conducts feasibility studies for bond financings, and monitors construction, acceptance testing and operations.

We have assembled a database of WTE and conversion technology projects both in the United States and overseas, and we are a regular contributor to *Renewable Energy from Waste* magazine, both in print and online at www.rewmag.com.

With many local governments now evaluating emerging technologies in waste processing, GBB's technical knowledge and experience enable us to evaluate such conversion technologies as cellulosic ethanol production, anaerobic digestion (methane recovery), acid catalysis and distillation, gasification/pyrolysis and plasma-arc. We also have the expertise to provide advice on the evolving issue of flow control.

Among the clients GBB has recently helped to evaluate emerging technologies:

- City of Plano, Texas
- County of Maui, Hawaii
- Mojave Desert and Mountain Recycling Authority, California
- New Hanover County, North Carolina
- Prince William County, Virginia
- Rhode Island Resource Recovery Corporation
- Solid Waste Authority of Palm Beach County, Florida

City of Alexandria and Arlington County, Virginia

[139,966 and 207,627 residents, respectively]

OUR ROLE

- Provided strategic analysis, guidance for compliance with 1998 Clean Air Act Amendments (CAAA) and project refinancing for 975 tons-per-day (TPD) waste-to-energy facility
- Administered the retrofit of the facility to meet 1998 CAAA requirements and managed the Board of Trustees' relationship with its contractor, Covanta Energy
- Provided assistance securing waste supply agreements to keep the facility financially viable

RESULTS

- Two jurisdictions refunded existing debt and issued new debt for facility retrofit
- Retrofit successfully completed in December 2000
- Positive relationship with facility operator resulted in high availability of plant

"I know I can speak for the Trustees in saying that GBB has been of enormous assistance to us. The firm has guided us and the two jurisdictions' solid waste operations through some challenging times. The Trustees have no hesitation in recommending GBB."

— Philip G. Sunderland, Esq.,
former City Manager,
Alexandria, Virginia



Northeast Maryland Waste Disposal Authority (NMWDA), Baltimore, Maryland

[620,961 and 805,029 residents,
Baltimore City and County respectively]

OUR ROLE

- Served as management consultant to the NMWDA, helping implement the Authority's Baltimore WTE facility that disposes over 2,250 TPD of municipal solid waste and produces and sells steam and electricity
- Assisted in vendor procurement and negotiations

RESULTS

- Approximately \$190 million of resource recovery revenue bonds and \$45 million of letter of credit notes for the facility went to market
- Facility has continued to serve the City and County of Baltimore continuously since it came online more than 20 years ago

Town of Babylon, New York [12,166 residents]

OUR ROLE

- After New York State banned additional landfills on Long Island, developed a new solid waste system for the Town
- Provided assistance and advice on procurement, environmental impact statements, negotiations and recycling

RESULTS

Since the late 1980s, this system has provided reliable service, including a 225,000 tons-per-year waste-to-energy facility, an ashfill to accommodate the 50,000 cubic yards of ash generated annually by the WTE facility, and changes to residential and commercial recycling collection services that have increased recycling collection and lowered the cost of services

For more information about GBB's waste-to-energy projects:
www.gbbinc.com/wte

Software Tools

Information Technology + Waste Industry Expertise

GBB has helped communities reduce collection expenses by 10% to 25% by optimizing collection routes and integrating technology tools into collection service improvements.

In association with its technology partner C2Logix, GBB offers several cutting-edge tools to assist solid waste managers with:

- Collection system analysis and route optimization
- Logistics planning
- Geographic information systems (GIS)
- Information technology
- Materials tracking and database management

GBB's software tools make waste collection and dispatch operations both efficient and cost-effective. They eliminate hours spent on manual routing, maximize productivity, optimize equipment and staff allocations, and allow for better control over operations.

FleetRoute™ and C2RouteApp™

FleetRoute is geographic information system-based modeling software for high density residential routing, point-to-point commercial/special waste routing, and districting/analytics/area routing. It balances route times, service days and districts; optimizes travel paths; and reduces the time and cost associated with updating routes. It also integrates with customer service and billing systems.

FleetRoute is flexible and completely customized for specific requirements. It is available as commercial, off-the-shelf software for in-house route development and management or as a service by having GBB's service bureau do all the initial route development.

C2RouteApp is a second powerful and easy-to-use, Web-based, point-to-point route optimization software, ideal for bulk waste and special pick-ups routing.

For more information on FleetRoute and C2RouteApp:
www.gbbinc.com/routing

City of Edmond, Oklahoma [81,405 residents]

OUR ROLE

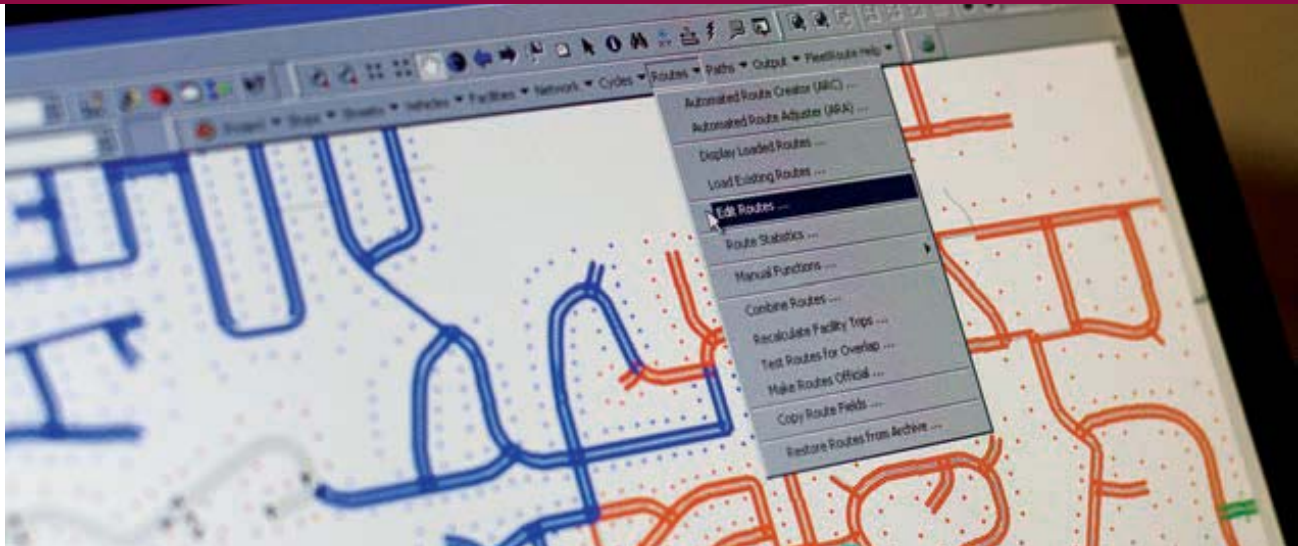
- Using FleetRoute, reorganized the City's garbage truck collection routing system

RESULTS

- Reduced the number of collection routes by 25% from 40 to 30
- Decreased the number of vehicles by 25% from 8 to 6
- Generated approximately \$250,000 in annual savings

"We chose FleetRoute's service bureau to develop our routes using GIS route optimization software because this approach provided a more economic, sophisticated and faster solution than we could develop in-house. The service bureau gave us valuable access to the FleetRoute team's extensive experience in waste collection and advanced route design."

— Mike Freeman, Systems Analyst,
City of Edmond, Oklahoma



City of Baltimore, Maryland, and Northeast Maryland Waste Disposal Authority

[620,961 and 805,029 residents, City and County respectively]

OUR ROLE

- Re-routed the City of Baltimore's residential trash collection system, which used 100 trucks to service 233,000 households
- Teamed with C2Logix and used FleetRoute, providing service bureau routing assistance
- Refined on GIS maps the geocoding of the City's customers (including those serviced in alleys)
- Developed five alternative route scenarios that optimized the routes, workdays and equipment allocation, each with associated cost savings

RESULTS

- City achieved new collection efficiencies and cost savings of approximately \$6 million annually



Emerald Coast Utilities Authority (ECUA), Pensacola, Florida [Escambia County 297,619 residents]

OUR ROLE

- Teamed with C2Logix and used FleetRoute to optimize trash collection routes that incorporated 13,000 new customers to the customer base of 65,000, included new recycling routes, and accommodated the change to once-a-week trash collection—all in one month
- Trained in-house staff to use FleetRoute to update routes

RESULTS

- ECUA realized fast-tracked, smooth transition to new collection service, with balanced routes, streamlined operations, increased efficiency and integration of new customers.

"GBB's route optimization team greatly contributed to making our transition easier and successful. We are now using FleetRoute for both residential and commercial routes. The software makes route creating easier and more efficient than manual routing, especially given our high-growth environment."

— Randy Rudd, Director of Sanitation, ECUA



Innovation and Leadership in Waste Management
Quality • Value • Ethics • Results



**SOLID WASTE
MANAGEMENT
CONSULTANTS**

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Appendix B – Marketing Material

B.3 - TriAD Brochure



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TriAD offers many services with a goal to provide customized solutions for each client's environmental needs. Our services include:

- CERCLA/Superfund and RCRA
- Solid Waste Management
- Voluntary Corrective Action Programs
- Hazardous Waste Management
- Phase I and II Environmental Assessments
- Environmental Regulatory Compliance
- Storm Water Management
- Tank Management
- 404 Permitting and ARAPs
- Environmental Engineering
- Civil Engineering
- Geologic Services
- Hydrogeologic Services
- Water and Air Environmental Monitoring

Let our experienced personnel make the difference for you.

TriAD

Environmental Consultants

(615) 889-6888
207 Donelson Pike Ste 200
Nashville, TN 37214

www.triadenvironment.com

Solid Waste

Whether you require assistance with handling and disposal options for a special waste or the siting and permitting of an industrial landfill, TriAD can guide you through the regulations or design and permit your waste disposal facility. TriAD personnel worked with U.S. EPA and the Tennessee Department of Environment and Conservation in the early 1980s to formulate the Tennessee Division of Solid Waste Management, Chapter 1200 solid waste management regulations. Over the past 25 years, TriAD personnel have implemented these requirements for numerous industrial, commercial, and governmental entities.

Our personnel have also prepared solid waste management plans and explored recycling options for military facilities worldwide. This process includes onsite waste characterization and generation estimates, identification of potential material reuse and recycling markets, and design of waste collection and sorting systems.

If reuse or recycling of your waste is not feasible, we have extensive experience in landfill design and permitting Class I, II, III, and IV facilities. This process begins with the identification and geologic evaluation of the most suitable disposal location. After onsite characterization of the geologic and hydrogeologic properties, evaluation of the physical site data and chemical nature of your waste will be conducted to determine the most cost-effective, environmentally-protective liner system. Our services extend beyond investigation and design, to permit document preparation, public hearing participation, and construction quality assurance monitoring during landfill development.

During construction and operation, we can further assist you with sediment and erosion control planning, construction quality assurance, groundwater and storm water monitoring, gas monitoring, spill prevention plan development, leachate management, and associated reporting requirements.

Experience
Makes The Difference

Solid Waste Projects



Coal Ash Monofill

TriAD assisted a private developer in the investigation and permitting of a Class II Landfill for the beneficial reuse of coal ash. Services included a hydrogeologic study, groundwater monitoring, preparation of engineering plans, development of Operational Manuals, construction quality assurance monitoring during construction and compliance monitoring during operation. TriAD compliance assistance at this facility includes storm water monitoring, employee training, and SPCC Plan/Storm Water Pollution Plan preparation.

Multiple Class I Landfill Locations

TriAD has assisted in all phases of investigation, permitting, and compliance for several Class I (municipal) sites. Subsurface investigations have included geologic, hydrogeologic, geophysical, and dye traces. TriAD has also prepared the engineering plans, drawings, manuals, and cost estimates necessary for permitting. We have also completed construction plans and specifications for use during bid acquisition and construction. To facilitate environmentally compliant operations, TriAD has conducted construction quality assurance monitoring, performed training, developed Storm Water Plans and Spill Plans, monitored air and landfill gas, and performed groundwater monitoring, gas probe installation, and groundwater monitoring well installation at various facilities. TriAD also provided regulatory and public coordination during all phases of permitting and monitoring including representation at community and public hearings.



Appendix B – Marketing Material

B.4 - CPS



Appendix B – Marketing Material

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COOLEY PUBLIC STRATEGIES LLC

Strategic Management | Building Public Support | Government Procurement



Dave Cooley



Dave Cooley brings uncommon experience and intuition to any project. He has built his reputation on a relentless determination to win.

His record:

- Deputy Governor of Tennessee under Governor Phil Bredesen.
- Chief of Staff for Mayor of Nashville.
- More than 25 years in public affairs, market positioning, and politics.
- Consultant on major economic development recruitment/siting projects.
- Political, corporate, and

nonprofit campaigns in 39 states.

- Consultant to more than three-dozen healthcare companies.
- Record of government procurement success for clients that span both the corporate and nonprofit sectors.
- Led campaigns for approval and construction of Nashville's arena, NFL stadium, and Downtown Library.
- On controversial land use issues, has led successful efforts in favor of and in opposition to various projects.
- Has crafted public-private partnerships (P3s), where projects hinged on innovative financing.

E-mail Dave: dcooley@cooleypublicstrategies.com

Emily Bryan



Emily Bryan, in Washington, provides leadership driven by savvy experience and authenticity. She is efficient with your time and your resources, and she delivers without compromise.

Her record includes:

- Senior positions with Tennessee Governor Phil Bredesen and Alabama Governor Robert Bentley.
- More than 12 years of success in public policy advocacy for corporate and nonprofit clients.
- Deft handling of issues ranging from sustainable energy to the war on drugs.
- Developer and director of grassroots campaigns for clients including an international philanthropic trust and leading U.S. corporations.
- Manager of a forward-looking healthcare study for a major metropolitan area.
- Yearlong, multi-level event management for the 50th anniversary of a major U.S. company.

E-mail Emily: ebryan@cooleypublicstrategies.com

COOLEY PUBLIC STRATEGIES LLC

What We Do



STRATEGIC MANAGEMENT

As an executive, you have a vision for where you want to go, but you have to navigate a maze to get there. Cooley Public Strategies can map out a plan, guide you through it, and steer you to success. Some of the things we can do:

- Clearly define the big picture: the challenges that you face and the strategy it will take to meet those challenges.
- Help you increase private equity through strong partnerships and the best positioning.
- Set up a practical plan to meet regulatory requirements.

Fine-tune your communication and media strategy.



BUILDING PUBLIC SUPPORT

You have a project that cannot go forward without the support of the community. Cooley Public Strategies can pull together the right campaign for a successful outcome. We have the tools to:

- Shape public approval, from the grassroots level to leading opinion-makers.
- Build relationships that give you the support you need – through personal meetings, phone calls, email, direct mail and social media.
- Advocate at every level for the issues that your organization is passionate about.

Plan turnkey events that highlight your issues.



GOVERNMENT AFFAIRS

Where business and government intersect, Cooley Public Strategies specializes in getting results. We will make sure that you are in the right place at the right time with the right people – so you won't miss the best opportunity. How we can help:

- Identify and make the most of government procurement opportunities.
- Develop a streamlined plan to navigate the government process.
- Help you build the relationships that count most.

Bring the right kind of pressure to bear—from the grassroots as well as the grassstops.



Appendix B – Marketing Material

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Appendix C – Exceptions to RFCSP Specifications

The draft Sample Contract provided in the RFCSP appears to be for professional services to collect amounts owed to the City and in many respects not applicable to the services requested in the RFCSP. While much of the intent and spirit of the terms proposed in the Sample Contract are acceptable, additional language appropriate for the services to be provided will need to be agreed to by the parties.



Appendix C – Exceptions to RFCSP Specifications

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